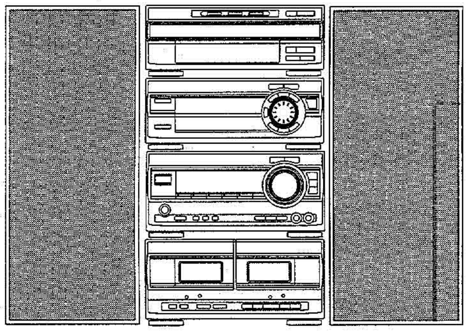
aiwa

aiwa SERVICE

# XR-AVH1000



COMPACT DISC STEREO
SYSTEM

- BASIC TAPE MECHANISM : 2ZM-3MK2 YPR4N
- BASIC CD MECHANISM : 4ZG-1 Z3DSHNM, Z4SHMD

- TYPE :EZ, K, HE

| AMPLIFIER | CASSETTE DECK | GRAPHIC EQUALIZER | CD PLAYER | SPEAKERS | REMOTE CONTROL |
|---|---|---|---|---|---|
| MX-NAVH1000 | FX-NH1000 | GE-NAVH1000 | DX-NH1000 | SX-NAVH1000<br>SX-CR675 | RC-7AS09 |

- If requiring information about the CD mechanism, see Service Manual of 4ZG-1, S/M Code No. 09-983-249-3OT.

S/M Code No. 09–987–275–5FP

SERVICE MANUAL

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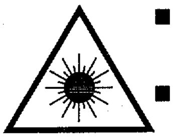
# PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

### WARNING!!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynlig laserståling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

### VAROITUS!

Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saataa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

### VARNING!

Om apparaten används på annat sätt än vad som specificeras i denna bruksanvising, kan användaren utsättas för osynling laserstrålning, som överskrider gränsen för laserklass 1.

### CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

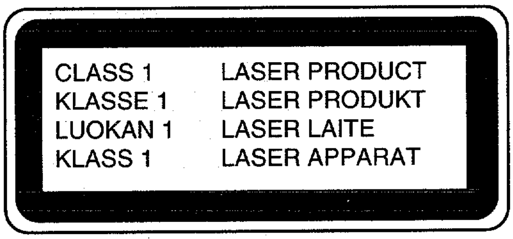
### ATTENTION

L'utillisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

### ADVARSEL

Usynlig laserståling ved åbning, når sikkerhedsafbrydereer ude af funktion. Undgå udsættelse for stråling.

This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.



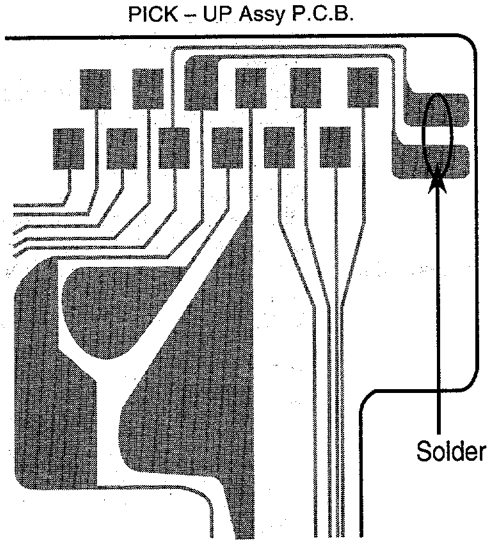
| | |
|---|---|
| CLASS 1 | LASER PRODUCT |
| KLASSE 1 | LASER PRODUKT |
| LUOKAN 1 | LASER LAITE |
| KLASS 1 | LASER APPARAT |

## Precaution to replace Optical block

## (KSS-213F)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure to ground body and workbench, and ensure the clothes do not touch the diode.

1) After the connection, remove solder shown in right figure.



# SPECIFICATIONS

## <STEREO RECEIVER MX-NAVH1000>

### <FM tuner section>

| | |
|---|---|
| **Tuning range** | 87.5 MHz to 108 MHz |
| **Usable sensitivity (IHF)** | K, EZ: 16.8 dBf<br>HE: 13.2 dBf |
| **Antenna terminals** | 75 ohms (unbalanced) |

### <MW Tuner section>

| | |
|---|---|
| **Tuning range** | 531 kHz to 1602 kHz (9 kHz step)<br>530 kHz to 1710 kHz (10 kHz step) |
| **Usable sensitivity** | 350 µV/m |
| **Antenna** | Loop antenna |

### <LW Tuner section><K,EZ>

| | |
|---|---|
| **Tuning range** | 144 kHz to 290 kHz |
| **Usable sensitivity** | 1400 µV/m |
| **Antenna** | Loop antenna |

### <SW Tuner section><HE>

| | |
|---|---|
| **Tuning range** | 5.900 MHz to 17.900 MHz |
| **Antenna** | Wire antenna |

### <Amplifier section>

| | |
|---|---|
| **Power output** | **Front**<br>Rated: 65 W + 65 W<br>K,EZ: (6 ohms, T.H.D. 1 %, 1 kHz/DIN 45500)<br>HE: (1 kHZ, T.H.D. 1 %, 6 ohms)<br>Reference: 80 W + 80 W<br>K,EZ: (6 ohms, T.H.D. 10 %, 1 kHz/ DIN 45324)<br>HE: (1 kHZ, T.H.D. 10 %, 6 ohms)<br>EZ: DIN MUSIC POWER: 150 W + 150 W<br>**Rear (Surround)**<br>Rated: 20 W + 20 W<br>K,EZ: (8 ohms, T.H.D. 1 %, 1 kHz/DIN 45500)<br>HE: (1 kHZ, T.H.D. 1 %, 8 ohms)<br>K,EZ: Reference: 37 W + 37 W<br>HE: Reference: 25 W + 25 W<br>K,EZ: (8 ohms, T.H.D. 10 %, 1 kHz/ DIN 45324)<br>HE: (1 kHZ, T.H.D. 10 %, 8 ohms)<br>EZ: DIN MUSIC POWER: 46 W + 46 W<br>**Center**<br>Rated: 20 W<br>K,EZ: (8 ohms, T.H.D. 1 %, 1 kHz/DIN 45500)<br>HE: (1 kHZ, T.H.D. 1 %, 8 ohms)<br>K,EZ: Reference: 37 W<br>HE: Reference: 25 W<br>K,EZ: (8 ohms, T.H.D. 10 %, 1 kHz/ DIN 45324)<br>HE: (1 kHZ, T.H.D. 10 %, 8 ohms)<br>EZ: DIN MUSIC POWER: 46 W |
| **Total harmonic distortion** | 0.1 % (8 W, 1 kHz, 6 ohms, DIN AUDIO) |
| **Inputs** | VIDEO/AUX: 150 mV (adjustable)<br>MD: 150 mV (adjustable)<br>MIC 1, MIC 2: 1 mV (10 kohms)<br>5.1CH INPUT<br>FRONT (L,R): 400 mV<br>SURROUND (L,R): 400 mV<br>CENTER: 400 mV<br>SUB WOOFER: 400 mV |
| **Outputs** | LINE OUT: 210 mV<br>SUB WOOFER: 800 mV<br>SPEAKERS: accept speakers of 6 ohms or more<br>SURROUND SPEAKERS: accept speakers of 8 ohms to 16 ohms<br>CENTER SPEAKER: accept speakers of 8 ohms or more<br>PHONES (stereo jack): accepts headphones of 32 ohms or more |

### <General>

| | |
|---|---|
| **Power requirements** | K: 230 V – 240 V AC, 50 Hz<br>EZ: 230 V AC, 50 Hz<br>HE: 120 V/ 220V–230V/ 240 V AC switchable 50/60 Hz |
| **Power consumption** | K, HE: 155 W EZ: 135 W |
| **Dimensions of main unit (W x H x D)** | 260 x 121.5 x 345 mm |
| **Weight of main unit** | 5.8 kg |

## <CASSETTE DECK FX-NH1000>

| | |
|---|---|
| **Track format** | 4 tracks, 2 channels stereo |
| **Frequency response** | Type II (high/$CrO_2$) tape: 50 Hz – 16000 Hz<br>Type I (normal) tape: 50 Hz – 15000 Hz |
| **Signal-to-noise ratio** | 60 dB (Dolby B NR ON, Type II tape peak level) |
| **Recording system** | AC bias, AC erase<EZ, HE> |
| **Heads** | Deck 1: Playback head x 1<br>Deck 2: Recording/playback head x 1, erase head x 1 |
| **Dimensions of main unit (W x H x D)** | 260 x 121.5 x 318 mm |
| **Weight of main unit** | 1.8 kg |

## <CD PLAYER DX-NH1000>

| | |
|---|---|
| **Laser** | Semiconductor laser ($\lambda$ =780 nm) |
| **D-A converter** | 1 bit dual |
| **Signal-to-noise ratio** | 85 dB (1 kHz, 0 dB) |
| **Harmonic distortion** | 0.05 % (1 kHz, 0 dB) |
| **Wow and flutter** | Unmeasurable |
| **Dimensions of main unit (W x H x D)** | 260 x 106 x 318 mm |
| **Weight of main unit** | 2.2 kg |

## <GRAPHIC EQUALIZER GE-NAVH1000>

| | |
|---|---|
| **Dimensions of main unit (W x H x D)** | 260 x 100.5 x 322 mm |
| **Weight** | 1 kg |

## <SPEAKER SYSTEM SX–NAVH1000>

| | |
|---|---|
| **Cabinet type** | 3 way (magnetic shielded type) |
| **Speakers** | Woofer: 140 mm cone type x 2<br>Tweeter: 60 mm cone type<br>Super tweeter: 20 mm ceramic type |
| **Impedance** | 6 ohms |
| **Output sound pressure level** | 88 dB/W/m |
| **Dimensions (W x H x D)** | K,EZ: 260 x 444 x 250 mm<br>HE: 222 x 444 x 250 mm |
| **Weight** | EZ,K: 6.0 kg<br>HE: 5.8 kg |

- Design and specifications are subject to change without notice.
- Manufactured under license from Dolby Laboratories Licensing Corporation.
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- The word "BBE" and the "BBE symbol" are trademarks of BBE Sound, Inc.
  Under license from BBE Sound, Inc.

# ACCESSORIES / PACKAGE LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

| REF. NO. | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| 1 | 88-SPM-906-010 | | IB,E(9L)M<EZ> |
| 1 | 88-SPM-901-010 | | IB,H(ECA)I<HE> |
| 1 | 88-SPM-905-010 | | IB,K(E)M<K> |
| 2 | 87-NFR-640-010 | | RC UNIT,RC-7AS09 |
| 3 | 87-043-095-010 | | WIRE ANTENNA<HE> |
| 4 | 87-043-106-010 | | WIRE, FM ANT (Z)<K,EZ> |
| 5 | 87-043-115-010 | | ANT,FEEDER FM<HE> |
| 6 | 87-006-269-010 | | AM LOOP ANT (UN)<HE> |
| 6 | 87-006-225-010 | | AM LOOP ANT NC2<K,EZ> |
| ⚠ 7 | 87-099-789-010 | | PLUG,ADPTR IR44<HE> |

MODEL NO.

# MX-NAVH1000

## ELECTRICAL MAIN PARTS LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

| REF. NO. | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| IC | | | |
| | 88-SL1-605-110 | | IC,UPD780228GF-026-3BA |
| | 87-NF8-614-010 | | IC,SPS-442-1-W |
| | 87-A20-853-010 | | C-IC,M62463FP |
| | 87-017-917-080 | | IC,BU4066BCF |
| | 87-A21-011-040 | | C-IC,M62445FP-600D |
| | 87-A20-804-040 | | C-IC,NJM2152M |
| | 87-017-888-080 | | IC,NJM4558MD |
| | 87-A20-869-040 | | C-IC,M62449FP |
| | 86-NFZ-655-010 | | IC,LC72131D(Z) |
| | 87-A20-913-010 | | IC,LA1837NL<K,EZ> |
| | 87-A20-438-010 | | IC,LA1837<HE> |
| | 88-NF5-615-040 | | C-IC,MSM6654A-521GS-KR1 |
| | 87-A20-715-010 | | IC,M62439SP |
| | 87-017-726-080 | | IC,BU4052 BCF |
| | 87-A20-440-040 | | C-IC,BU1920FS<EZ> |
| TRANSISTOR | | | |
| | 87-A30-076-080 | | C-TR,2SC3052 F |
| | 87-A30-104-080 | | C-TR,RT1N441C |
| | 89-213-702-010 | | TR,2SB1370 (1.8W) |
| | 87-026-610-080 | | TR,KTC3198GR |
| | 87-A30-083-080 | | TR,CSD1489B |
| | 87-A30-075-080 | | C-TR,2SA1235F |
| | 87-026-609-080 | | TR,KTA1266GR |
| | 87-A30-087-080 | | C-FET,2SK2158 |
| | 87-A30-086-040 | | C-TR,CSD1306E |
| | 87-A30-107-080 | | C-TR,CMBT5401 |
| | 87-A30-190-080 | | TR,CC5551 |
| | 87-A30-097-010 | | TR,FN 1016 |
| | 87-A30-098-010 | | TR,FP 1016 |
| | 87-A30-071-080 | | C-TR,RT1N 144C |
| | 87-A30-106-080 | | C-TR,CMBT5551 |
| | 87-A30-162-010 | | FET,2SK2937 |
| | 87-A30-072-080 | | C-TR,RT1P 144C |
| | 87-A30-073-080 | | C-TR,RT1N 141C |
| | 87-A30-074-080 | | C-TR,RT1P 141C |
| | 87-026-263-080 | | C-TR,RN1410 |
| | 87-A30-086-080 | | C-TR,CSD1306E |
| | 89-112-965-080 | | TR,2SA1296 (0.75W) |
| | 87-026-226-080 | | CHIP-TR,DTA143EK |
| | 87-A30-109-010 | | TR,2SD 2495 |
| | 87-A30-108-010 | | TR,2SB1626 |
| | 87-A30-196-080 | | TR,2SC4115SRS |
| | 89-327-143-080 | | TR,2SC2714 (0.1W) |
| | 89-109-521-080 | | TR,2SA952K |
| | 89-503-602-080 | | C-FET,2SK360E |
| DIODE | | | |
| | 87-017-654-060 | | DIODE,GBU6J |
| | 87-017-447-010 | | DIODE,GBU4DL |
| | 87-A40-470-080 | | DIODE,1SS254 |
| | 87-A40-468-080 | | C-DIODE,HSM2836CTR |
| | 87-A40-469-080 | | C-DIODE,HSM2838CTR |
| | 87-070-274-080 | | DIODE,1N4003 SEM |
| | 87-A40-341-080 | | ZENER,MTZJ 36 A |
| | 87-A40-345-080 | | ZENER,MTZJ10C |
| | 87-A40-004-080 | | ZENER,MTZJ16A |
| | 87-017-931-080 | | ZENER,MTZJ5.6B |
| | 87-A40-370-090 | | DIODE,RK46-P20 |
| | 87-070-136-080 | | ZENER,MTZJ5.1B |
| | 87-A40-488-080 | | DIODE,1SS244 |
| | 87-A40-442-080 | | ZENER,MTZJ9.1A |
| | 87-A40-438-080 | | ZENER,MTZJ4.7A |
| | 87-A40-002-080 | | ZENER,MTZJ5.1C |
| | 87-A40-270-080 | | C-DIODE,MC2838<EZ,K> |
| | 87-A40-234-080 | | ZENER,MTZJ5.6A |
| | 87-A40-466-080 | | ZENER,MTZJ2.7A |
| MAIN C.B | | | |
| C101 | 87-016-520-090 | | CAP,E 3300-65 |
| C102 | 87-016-520-090 | | CAP,E 3300-65 |
| C103 | 87-016-658-090 | | CAP,E 4700-35 SMG |
| C104 | 87-016-658-090 | | CAP,E 4700-35 SMG |
| C105 | 87-012-368-080 | | C-CAP,S 0.1-50 F |
| C106 | 87-012-368-080 | | C-CAP,S 0.1-50 F |
| C107 | 87-012-368-080 | | C-CAP,S 0.1-50 F |
| C108 | 87-012-368-080 | | C-CAP,S 0.1-50 F |
| C109 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C110 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C111 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C112 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C113 | 87-010-247-080 | | CAP, ELECT 100-50V |
| C114 | 87-010-385-080 | | CAP, ELECT 220-25V |
| C115 | 87-010-385-080 | | CAP, ELECT 220-25V |
| C116 | 87-010-247-080 | | CAP, ELECT 100-50V |
| C117 | 87-010-430-080 | | CAP, ELECT 100-63 |
| C118 | 87-010-263-080 | | CAP, ELECT 100-10V |
| C119 | 87-010-260-080 | | CAP, ELECT 47-25V |
| C120 | 87-010-403-080 | | CAP, ELECT 3.3-50V |
| C121 | 87-010-174-080 | | CAP CHIP SL470P (K) |
| C123 | 87-010-247-080 | | CAP, ELECT 100-50V |
| C124 | 87-010-112-080 | | CAP, ELECT 100-16V |
| C125 | 87-010-235-080 | | CAP,E 470-16 SME |
| C130 | 87-010-399-010 | | CAP, ELECT 3300-35V |
| C131 | 87-010-399-010 | | CAP, ELECT 3300-35V |
| C132 | 87-012-368-080 | | C-CAP,S 0.1-50 F |
| C133 | 87-012-368-080 | | C-CAP,S 0.1-50 F |
| C190 | 87-018-209-080 | | CAP,TC-U 0.1-50 ZF |
| C201 | 87-010-322-080 | | C-CAP,S 100P-50 CH |
| C202 | 87-010-322-080 | | C-CAP,S 100P-50 CH |
| C209 | 87-010-403-080 | | CAP, ELECT 3.3-50V |
| C210 | 87-010-403-080 | | CAP, ELECT 3.3-50V |
| C211 | 87-010-184-080 | | CAP CHIP S3300P |
| C212 | 87-010-184-080 | | CAP CHIP S3300P |
| C213 | 87-010-186-080 | | CAP,CHIP 4700P |
| C214 | 87-010-186-080 | | CAP,CHIP 4700P |
| C215 | 87-010-404-080 | | CAP, ELECT 4.7-50V |
| C216 | 87-010-404-080 | | CAP, ELECT 4.7-50V |
| C217 | 87-010-260-080 | | CAP, ELECT 47-25V |
| C218 | 87-010-260-080 | | CAP, ELECT 47-25V |
| C219 | 87-A10-516-080 | | C-CAP,S 100P-200 J CH |
| C220 | 87-A10-516-080 | | C-CAP,S 100P-200 J CH |
| C221 | 87-016-462-080 | | C-CAP,S 1-16 F |
| C222 | 87-016-462-080 | | C-CAP,S 1-16 F |
| C223 | 87-010-405-080 | | CAP, ELECT 10-50V |
| C227 | 87-010-407-080 | | CAP, ELECT 33-50V |
| C231 | 87-010-186-080 | | CAP,CHIP 4700P |
| C232 | 87-010-186-080 | | CAP,CHIP 4700P |
| C233 | 87-010-401-080 | | CAP, ELECT 1-50V |
| C234 | 87-010-401-080 | | CAP, ELECT 1-50V |
| C235 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C301 | 87-010-402-080 | | CAP, ELECT 2.2-50V |
| C302 | 87-010-402-080 | | CAP, ELECT 2.2-50V |
| C303 | 87-010-178-080 | | CHIP CAP 1000P |
| C304 | 87-010-178-080 | | CHIP CAP 1000P |

| REF. NO. | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| C305 | 87-010-404-080 | | CAP, ELECT 4.7-50V |
| C306 | 87-010-404-080 | | CAP, ELECT 4.7-50V |
| C307 | 87-010-322-080 | | C-CAP,S 100P-50 CH |
| C308 | 87-010-322-080 | | C-CAP,S 100P-50 CH |
| C309 | 87-010-405-080 | | CAP, ELECT 10-50V |
| C310 | 87-010-405-080 | | CAP, ELECT 10-50V |
| C313 | 87-010-260-080 | | CAP, ELECT 47-25V |
| C314 | 87-010-260-080 | | CAP, ELECT 47-25V |
| C315 | 87-A10-596-080 | | C-CAP,S 100P-100 J CH |
| C316 | 87-A10-596-080 | | C-CAP,S 100P-100 J CH |
| C317 | 87-010-544-080 | | CAP, ELECT 0.1-50V |
| C318 | 87-010-544-080 | | CAP, ELECT 0.1-50V |
| C319 | 87-010-182-080 | | C-CAP,S 2200P-50 B |
| C321 | 87-012-145-080 | | CAP, CHIP S 270P CH |
| C322 | 87-012-145-080 | | CAP, CHIP S 270P CH |
| C323 | 87-016-462-080 | | C-CAP,S 1-16 ZF |
| C324 | 87-016-462-080 | | C-CAP,S 1-16 ZF |
| C351 | 87-010-402-080 | | CAP, ELECT 2.2-50V |
| C352 | 87-010-178-080 | | CHIP CAP 1000P |
| C353 | 87-010-404-080 | | CAP, ELECT 4.7-50V |
| C354 | 87-010-322-080 | | C-CAP,S 100P-50 CH |
| C355 | 87-010-405-080 | | CAP, ELECT 10-50V |
| C357 | 87-010-260-080 | | CAP, ELECT 47-25V |
| C358 | 87-A10-596-080 | | C-CAP,S 100P-100 J CH |
| C359 | 87-010-544-080 | | CAP, ELECT 0.1-50V |
| C360 | 87-012-145-080 | | CAP, CHIP S 270P CH |
| C361 | 87-016-462-080 | | C-CAP,S 1-16 ZF |
| C381 | 87-010-402-080 | | CAP, ELECT 2.2-50V |
| C391 | 87-010-401-080 | | CAP, ELECT 1-50V |
| C503 | 87-010-180-080 | | C-CER 1500P |
| C504 | 87-010-180-080 | | C-CER 1500P |
| C509 | 87-018-131-080 | | CAP,TC-U 1000P-50 K |
| C510 | 87-018-131-080 | | CAP,TC-U 1000P-50 K |
| C511 | 87-010-405-080 | | CAP, ELECT 10-50V |
| C512 | 87-010-405-080 | | CAP, ELECT 10-50V |
| C513 | 87-010-404-080 | | CAP, ELECT 4.7-50V |
| C514 | 87-010-404-080 | | CAP, ELECT 4.7-50V |
| C519 | 87-012-142-080 | | CAP, S 0.33-16 |
| C520 | 87-016-669-080 | | C-CAP,S 0.1-25 K B |
| C521 | 87-016-083-080 | | C-CAP,S 0.15-16 RK |
| C522 | 87-010-183-080 | | C-CAP,S 2700P-50 B |
| C523 | 87-016-669-080 | | C-CAP,S 0.1-25 K B |
| C531 | 87-010-405-080 | | CAP, ELECT 10-50V |
| C532 | 87-010-374-080 | | CAP,E 47-10 |
| C533 | 87-010-263-080 | | CAP, ELECT 100-10V |
| C534 | 87-010-263-080 | | CAP, ELECT 100-10V |
| C535 | 87-010-195-080 | | C-CAP,S 0.068-25 F |
| C536 | 87-012-142-080 | | CAP, S 0.33-16 |
| C537 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C538 | 87-010-404-080 | | CAP, ELECT 4.7-50V |
| C539 | 87-010-404-080 | | CAP, ELECT 4.7-50V |
| C540 | 87-010-314-080 | | C-CAP,S 22P-50V |
| C541 | 87-010-314-080 | | C-CAP,S 22P-50V |
| C542 | 87-010-314-080 | | C-CAP,S 22P-50V |
| C545 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C601 | 87-010-545-080 | | CAP,E 0.22-50 SME |
| C602 | 87-010-545-080 | | CAP,E 0.22-50 SME |
| C603 | 87-010-182-080 | | C-CAP,S 2200P-50 B |
| C604 | 87-010-182-080 | | C-CAP,S 2200P-50 B |
| C605 | 87-010-369-080 | | C-CAP,S 0.033-25 K B |
| C606 | 87-010-369-080 | | C-CAP,S 0.033-25 K B |
| C607 | 87-010-405-080 | | CAP, ELECT 10-50V |
| C608 | 87-010-405-080 | | CAP, ELECT 10-50V |
| C609 | 87-010-374-080 | | CAP,E 47-10 |
| C610 | 87-010-374-080 | | CAP,E 47-10 |
| C611 | 87-010-405-080 | | CAP, ELECT 10-50V |
| C612 | 87-010-112-080 | | CAP, ELECT 100-16V |
| C613 | 87-010-184-080 | | CHIP CAPACITOR 3300P(K) |
| C614 | 87-010-184-080 | | CHIP CAPACITOR 3300P(K) |
| C701 | 87-010-402-080 | | CAP, ELECT 2.2-50V |

| REF. NO. | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| C702 | 87-010-402-080 | | CAP, ELECT 2.2-50V |
| C703 | 87-016-669-080 | | C-CAP,S 0.1-25 K B |
| C704 | 87-016-669-080 | | C-CAP,S 0.1-25 K B |
| C705 | 87-016-460-080 | | C-CAP,S 0.22-16 B |
| C706 | 87-016-460-080 | | C-CAP,S 0.22-16 B |
| C707 | 87-012-365-080 | | C-CAP,S 0.027-25VBK |
| C708 | 87-012-365-080 | | C-CAP,S 0.027-25VBK |
| C709 | 87-010-956-080 | | CHIP-CAP,S 0.068-25B |
| C710 | 87-010-956-080 | | CHIP-CAP,S 0.068-25B |
| C711 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C712 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C713 | 87-010-198-080 | | CAP, CHIP 0.022 |
| C714 | 87-010-198-080 | | CAP, CHIP 0.022 |
| C715 | 87-010-183-080 | | C-CAP,S 2700P-50 B |
| C716 | 87-010-183-080 | | C-CAP,S 2700P-50 B |
| C717 | 87-010-188-080 | | CAP,CHIP 6800P |
| C718 | 87-010-188-080 | | CAP,CHIP 6800P |
| C719 | 87-010-178-080 | | CHIP CAP 1000P |
| C720 | 87-010-178-080 | | CHIP CAP 1000P |
| C721 | 87-010-182-080 | | C-CAP,S 2200P-50 B |
| C722 | 87-010-182-080 | | C-CAP,S 2200P-50 B |
| C723 | 87-010-544-080 | | CAP, ELECT 0.1-50V |
| C724 | 87-010-544-080 | | CAP, ELECT 0.1-50V |
| C730 | 87-010-404-080 | | CAP, ELECT 4.7-50V |
| C731 | 87-010-112-080 | | CAP, ELECT 100-16V |
| C735 | 87-010-322-080 | | C-CAP,S 100P-50 CH |
| C736 | 87-010-322-080 | | C-CAP,S 100P-50 CH |
| C737 | 87-010-322-080 | | C-CAP,S 100P-50 CH |
| C738 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C900 | 87-010-178-080 | | CHIP CAP 1000P |
| C901 | 87-010-182-080 | | C-CAP,S 2200P-50 B<K,EZ> |
| C902 | 87-010-182-080 | | C-CAP,S 2200P-50 B<K,EZ> |
| C903 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C904 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C905 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C906 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C907 | 87-010-190-080 | | S CHIP F 0.01 |
| C908 | 87-010-190-080 | | S CHIP F 0.01 |
| C909 | 87-012-368-080 | | C-CAP,S 0.1-50 F |
| C910 | 87-012-368-080 | | C-CAP,S 0.1-50 F |
| C920 | 87-012-157-080 | | C-CAP,S 330P-50 CH |
| C921 | 87-012-157-080 | | C-CAP,S 330P-50 CH |
| C922 | 87-012-157-080 | | C-CAP,S 330P-50 CH |
| C923 | 87-012-157-080 | | C-CAP,S 330P-50 CH |
| C924 | 87-012-157-080 | | C-CAP,S 330P-50 CH<K,EZ> |
| C925 | 87-012-157-080 | | C-CAP,S 330P-50 CH<K,EZ> |
| C939 | 87-010-401-080 | | CAP, ELECT 1-50V |
| C940 | 87-010-401-080 | | CAP, ELECT 1-50V |
| C941 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C942 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C943 | 87-010-993-080 | | C-CAP,S 0.056-25 B |
| C944 | 87-010-993-080 | | C-CAP,S 0.056-25 B |
| C945 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C946 | 87-010-993-080 | | C-CAP,S 0.056-25 B |
| C951 | 87-010-401-080 | | CAP, ELECT 1-50V |
| C952 | 87-010-263-080 | | CAP, ELECT 100-10V |
| C953 | 87-010-380-080 | | CAP, ELECT 47-16V |
| CN611 | 87-099-212-010 | | CONN,5P 6216 V |
| CN621 | 87-A60-063-010 | | CONN,04P V 96045-04C<EZ> |
| FB101 | 87-003-223-080 | | F-BEAD,BL02RN2 |
| J901 | 87-A60-483-010 | | JACK,DIA6.3 BLK ST W/S KM |
| J902 | 87-A60-617-010 | | TERMINAL,SP 4P (MSC) |
| J903 | 87-A60-652-010 | | JACK,PIN 4P ORN/BLK |
| J904 | 87-A60-684-010 | | JACK,PIN 6P OR/BLK/RED |
| J905 | 87-A60-658-010 | | JACK,PIN 6P WHITE/RED |
| L901 | 87-003-383-010 | | COIL,1UH-S |
| L902 | 87-003-383-010 | | COIL,1UH-S |
| L911 | 87-003-383-010 | | COIL,1UH-S |
| L912 | 87-003-383-010 | | COIL,1UH-S |
| L913 | 87-003-383-010 | | COIL,1UH-S |

| REF. NO. | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| R237 | 87-A00-262-080 | | RES,M/F 0.15-2W J |
| R238 | 87-A00-262-080 | | RES,M/F 0.15-2W J |
| R239 | 87-A00-262-080 | | RES,M/F 0.15-2W J |
| R240 | 87-A00-262-080 | | RES,M/F 0.15-2W J |
| R331 | 87-022-050-080 | | RES,M/F 0.22-1W J |
| R332 | 87-022-050-080 | | RES,M/F 0.22-1W J |
| R333 | 87-022-050-080 | | RES,M/F 0.22-1W J |
| R334 | 87-022-050-080 | | RES,M/F 0.22-1W J |
| R366 | 87-022-050-080 | | RES,M/F 0.22-1W J |
| R367 | 87-022-050-080 | | RES,M/F 0.22-1W J |
| R909 | 87-A00-126-080 | | RES M/F 220-1/WJ VIP |
| R910 | 87-A00-126-080 | | RES M/F 220-1/WJ VIP |
| R911 | 87-A00-126-080 | | RES M/F 220-1/WJ VIP |
| R912 | 87-A00-126-080 | | RES M/F 220-1/WJ VIP |
| RY101 | 87-A90-464-010 | | RELAY, DG12D2-O(M) |
| TH201 | 87-A90-221-080 | | C-THMS,100K |
| TH202 | 87-A90-221-080 | | C-THMS,100K |
| W101 | 85-NF5-628-010 | | F-CABLE 7P-2.5 |
| W611 | 88-905-281-110 | | FF-CABLE, 5P 1.25 280MM |
| W621 | 88-904-151-110 | | FF-CABLE,4P 1.25 150MM<EZ> |
| W906 | 88-908-071-110 | | FF-CABLE, 8P 1.25 70MM |
| W907 | 88-911-121-110 | | FF-CABLE,11P 1.25 |

FRONT C.B

| REF. NO. | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| C1 | 87-015-685-040 | | CAP,E 10-25 M 7L SRA |
| C101 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C201 | 87-010-192-080 | | C-CAP,S 0.022-50 F |
| C202 | 87-010-264-040 | | CAP,E 100-10 5L |
| C203 | 87-010-490-040 | | CAP, ELECT 0.1-50 |
| C204 | 87-010-981-040 | | CAP,E 22-35 M 5L SRE |
| C205 | 87-010-194-080 | | CAP, CHIP 0.047 |
| C206 | 87-010-405-040 | | CAP,E 10-50 |
| C207 | 87-010-194-080 | | CAP, CHIP 0.047 |
| C208 | 87-A10-189-040 | | CAP,E 220-10 5L |
| C209 | 87-010-071-040 | | CAP,E 1-50 5L |
| C211 | 87-012-140-080 | | CAP 470P |
| C220 | 87-016-669-080 | | C-CAP,S 0.1-25 K B |
| C221 | 87-016-669-080 | | C-CAP,S 0.1-25 K B |
| C222 | 87-010-401-040 | | CAP,E 1-50 SME |
| C241 | 87-010-178-080 | | CHIP CAP 1000P |
| C242 | 87-018-115-080 | | C-CAP,S 47P-50 J SL |
| C243 | 87-010-312-080 | | C-CAP,S 15P-50 CH |
| C244 | 87-018-113-080 | | C-CAP,S 33P-50 J SL |
| C247 | 87-016-669-080 | | C-CAP,S 0.1-25 K B |
| C248 | 87-010-192-080 | | C-CAP,S 0.022-50 F |
| C301 | 87-010-404-080 | | CAP, ELECT 4.7-50V |
| C302 | 87-010-404-080 | | CAP, ELECT 4.7-50V |
| C601 | 87-010-405-040 | | CAP,E 10-50 |
| C602 | 87-010-176-080 | | C-CAP,S 680P-50 SL |
| C603 | 87-018-133-080 | | CAP,TC-U 4700P-16 N |
| C604 | 87-010-166-080 | | C-CAP,S 100P-50 SL |
| C605 | 87-010-321-080 | | CHIP CAPACITOR,82P(J) |
| C606 | 87-010-544-040 | | CAP,E 0.1-50 SME |
| C608 | 87-010-166-080 | | C-CAP,S 100P-50 SL |
| C609 | 87-010-545-040 | | CAP,E 0.22-50 SME |
| C610 | 87-010-177-080 | | C-CAP,S 820P-50 SL |
| C611 | 87-010-406-040 | | CAP,E 22-50 SME |
| C614 | 87-010-248-040 | | CAP,E 220-10 SME |
| C615 | 87-010-378-040 | | CAP,E 10-16 |
| C619 | 87-016-526-080 | | C-CAP,S 0.47-16 BK |
| C801 | 87-010-263-040 | | CAP,E 100-10 |
| C802 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C803 | 87-010-405-040 | | CAP,E 10-50 |
| C804 | 87-010-159-080 | | C-CAP,S 27P-50 SL |
| C805 | 87-010-159-080 | | C-CAP,S 27P-50 SL |
| C807 | 87-018-131-080 | | CAP,TC-U 1000P-50 KB |
| CN601 | 87-099-212-010 | | CONN,5P 6216 V |
| FB601 | 87-008-372-080 | | FILTER, EMI BL OIRNI |
| FL301 | 88-SP1-610-010 | | FL,10-BT-208GK |
| J601 | 87-A60-651-010 | | JACK,3.5MO (NO) |
| J602 | 87-A60-651-010 | | JACK,3.5MO (NO) |
| LED301 | 87-A40-497-080 | | LED,SML11516C |
| LED302 | 87-A40-497-080 | | LED,SML11516C |
| LED303 | 87-A40-497-080 | | LED,SML11516C |
| LED304 | 87-A40-497-080 | | LED,SML11516C |
| LED305 | 87-A40-497-080 | | LED,SML11516C |
| S301 | 87-A90-809-080 | | SW,TACT TSTA-2 |
| S302 | 87-A90-809-080 | | SW,TACT TSTA-2 |
| S303 | 87-A90-809-080 | | SW,TACT TSTA-2 |
| S304 | 87-A90-809-080 | | SW,TACT TSTA-2 |
| S305 | 87-A90-809-080 | | SW,TACT TSTA-2 |
| S306 | 87-A90-809-080 | | SW,TACT TSTA-2 |
| S307 | 87-A90-809-080 | | SW,TACT TSTA-2 |
| S308 | 87-A90-809-080 | | SW,TACT TSTA-2 |
| S309 | 87-A90-809-080 | | SW,TACT TSTA-2 |
| S310 | 87-A90-809-080 | | SW,TACT TSTA-2 |
| S311 | 87-A90-809-080 | | SW,TACT TSTA-2 |
| S312 | 87-A90-809-080 | | SW,TACT TSTA-2 |
| S313 | 87-A90-809-080 | | SW,TACT TSTA-2 |
| S314 | 87-A90-809-080 | | SW,TACT TSTA-2 |
| S315 | 87-A90-809-080 | | SW,TACT TSTA-2 |
| S316 | 87-A90-809-080 | | SW,TACT TSTA-2<EZ> |
| S317 | 87-A90-809-080 | | SW,TACT TSTA-2<EZ> |
| S318 | 87-A90-809-080 | | SW,TACT TSTA-2<EZ> |
| SW201 | 87-A90-535-010 | | SW,RTRY EC16B24304 |
| X201 | 87-A70-075-080 | | VIB,CER 4.19MHZ CRHF |
| X801 | 87-A70-075-080 | | VIB,CER 4.19MHZ CRHF |

TUNER C.B

| REF. NO. | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| C701 | 87-010-260-080 | | CAP, ELECT 47-25V |
| C702 | 87-010-404-080 | | CAP, ELECT 4.7-50V |
| C703 | 87-012-286-080 | | CAP, U 0.01-25 |
| C704 | 87-012-286-080 | | CAP, U 0.01-25 |
| C709 | 87-012-195-080 | | C-CAP,U 100P-50CH |
| C711 | 87-010-263-080 | | CAP, ELECT 100-10V |
| C712 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C713 | 87-012-286-080 | | CAP, U 0.01-25 |
| C714 | 87-012-286-080 | | CAP, U 0.01-25 |
| C715 | 87-012-195-080 | | C-CAP,U 100P-50 CH<K,EZ> |
| C717 | 87-012-286-080 | | CAP, U 0.01-25 |
| C719 | 87-012-286-080 | | CAP, U 0.01-25 |
| C720 | 87-012-195-080 | | C-CAP,U 100P-50CH |
| C721 | 87-012-176-080 | | CAP 15P |
| C722 | 87-012-176-080 | | CAP 15P |
| C723 | 87-012-274-080 | | CHIP CAP,U 1000P-50B |
| C725 | 87-012-274-080 | | CHIP CAP,U 1000P-50B |
| C727 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C728 | 87-010-248-080 | | CAP, ELECT 220-10V |
| C753 | 87-012-195-080 | | C-CAP,U 100P-50CH<K,EZ> |
| C755 | 87-012-286-080 | | CAP, U 0.01-25 |
| C756 | 87-012-286-080 | | CAP, U 0.01-25 |
| C757 | 87-012-188-080 | | C-CAP,U 47P-50 CH |
| C758 | 87-012-167-080 | | C-CAP,U 5P-50 CH |
| C761 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C762 | 87-012-286-080 | | CAP, U 0.01-25 |
| C763 | 87-010-829-080 | | CAP, U 0.047-16 |
| C764 | 87-012-337-080 | | C-CAP,U 56P-50 CH<HE> |
| C765 | 87-012-286-080 | | CAP, U 0.01-25 |
| C766 | 87-012-286-080 | | CAP, U 0.01-25 |
| C768 | 87-012-286-080 | | CAP, U 0.01-25 |
| C769 | 87-010-260-080 | | CAP, ELECT 47-25V |
| C770 | 87-010-829-080 | | CAP, U 0.047-16 |
| C771 | 87-010-407-080 | | CAP, ELECT 33-50V |
| C772 | 87-010-829-080 | | CAP, U 0.047-16 |
| C773 | 87-015-785-080 | | CHIP CAPACITOR, 0.1FZ-25Z |
| C774 | 87-010-263-080 | | CAP, ELECT 100-10V |
| C775 | 87-010-404-080 | | CAP, ELECT 4.7-50V |
| C776 | 87-012-286-080 | | CAP, U 0.01-25<K,EZ> |

| REF. NO. | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| C777 | 87-010-400-080 | | CAP, ELECT 0.47-50V |
| C778 | 87-010-401-080 | | CAP, ELECT 1-50V |
| C779 | 87-010-401-080 | | CAP, ELECT 1-50V |
| C780 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C781 | 87-010-405-080 | | CAP, ELECT 10-50V |
| C782 | 87-010-405-080 | | CAP, ELECT 10-50V |
| C783 | 87-012-286-080 | | CAP, U 0.01-25 |
| C784 | 87-012-286-080 | | CAP, U 0.01-25 |
| C785 | 87-010-805-080 | | CAP, S 1-16 |
| C786 | 87-010-805-080 | | CAP, S 1-16 |
| C787 | 87-012-280-080 | | CAP, U 3300P-50<K,EZ> |
| C787 | 87-012-282-080 | | CAP, U 4700P-50<HE> |
| C788 | 87-012-280-080 | | CAP, U 3300P-50<K,EZ> |
| C788 | 87-012-282-080 | | CAP, U 4700P-50<HE> |
| C789 | 87-012-275-080 | | C-CAP,U 1200P-50 B |
| C790 | 87-012-275-080 | | C-CAP,U 1200P-50 B |
| C791 | 87-010-405-080 | | CAP, ELECT 10-50V |
| C793 | 87-012-275-080 | | C-CAP,S 1200P-50 B<K,EZ> |
| C793 | 87-012-273-080 | | C-CAP,U 820P-50 B<HE> |
| C794 | 87-010-406-080 | | CAP, ELECT 22-50 |
| C795 | 87-A10-504-080 | | CAP, U 0.047-16 K B |
| C796 | 87-010-403-080 | | CAP, ELECT 3.3-50V |
| C797 | 87-012-276-080 | | CAP, CHIP SS 1500 PBK |
| C798 | 87-012-276-080 | | CAP, CHIP SS 1500 PBK |
| C799 | 87-010-829-080 | | CAP, U 0.047-16 |
| C812 | 87-012-286-080 | | CAP, U 0.01-25 |
| C813 | 87-010-197-080 | | CAP, CHIP 0.01 DM<HE> |
| C814 | 87-012-286-080 | | CAP, U 0.01-25 |
| C818 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C820 | 87-010-260-080 | | CAP, ELECT 47-25V |
| C821 | 87-012-286-080 | | CAP, U 0.01-25 |
| C822 | 87-012-286-080 | | CAP, U 0.01-25 |
| C823 | 87-012-286-080 | | CAP, U 0.01-25 |
| C828 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C829 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C859 | 87-012-286-080 | | CAP, U 0.01-25<EZ> |
| C861 | 87-012-266-080 | | C-CAP,U 220P-50 B<EZ> |
| C862 | 87-012-266-080 | | C-CAP,U 220P-50 B<EZ> |
| C863 | 87-012-270-080 | | CAP, U 470P-50<EZ> |
| C864 | 87-010-405-080 | | CAP, ELECT 10-50V<EZ> |
| C865 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25<EZ> |
| C866 | 87-010-405-080 | | CAP, ELECT 10-50V<EZ> |
| C867 | 87-012-286-080 | | CAP, U 0.01-25<EZ> |
| C868 | 87-012-184-080 | | C-CAP,U 33P-50 CH<EZ> |
| C869 | 87-012-180-080 | | C-CAP,U 22P-50 CH<EZ> |
| C940 | 87-012-286-080 | | CAP, U 0.01-25 |
| C941 | 87-012-182-080 | | C-CAP,U 27P-50 CH<HE> |
| C942 | 87-012-172-080 | | CAPACITOR CHIP U 10P CH<K,EZ> |
| C943 | 87-012-286-080 | | CAP, U 0.01-25<HE> |
| C944 | 87-010-575-080 | | C-CAP,S 560P-50 UJ<HE> |
| C945 | 87-012-286-080 | | CAP, U 0.01-25<HE> |
| C947 | 87-012-286-080 | | CAP, U 0.01-25 |
| C949 | 87-A10-039-080 | | C-CAP,U 470P-50 J CH<K,EZ> |
| C950 | 87-A10-913-080 | | C-CAP, 4700P-50 J CH<HE> |
| C952 | 87-012-286-080 | | CAP, U 0.01-25 |
| C953 | 87-012-286-080 | | CAP, U 0.01-25<HE> |
| C954 | 87-010-400-080 | | CAP, ELECT 0.47-50V<HE> |
| C956 | 87-010-263-080 | | CAP, ELECT 100-10V<HE> |
| C958 | 87-012-286-080 | | CAP, U 0.01-25<K,EZ> |
| C959 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C960 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C962 | 87-010-401-080 | | CAP, ELECT 1-50V |
| C964 | 87-012-170-080 | | C-CAP,U 8P-50 CH<HE> |
| CF801 | 87-008-423-010 | | CERAMIC FILTER,SFE10.7 MS3GA<K,EZ> |
| CF801 | 87-008-261-010 | | FILTER, SFE10.7MA5-A<HE> |
| CF802 | 82-785-747-010 | | CF MS2 GHY R<K,EZ> |
| CF802 | 87-008-261-010 | | FILTER, SFE10.7MA5-A<HE> |
| CN601 | 87-099-028-010 | | CONN,11P 6216 H |
| CN602 | 87-099-211-010 | | CONN,4P 6216V<EZ> |
| FFE801 | A8-6ZA-195-130 | | 6ZA-1 YFEENM<K,EZ> |

| REF. NO. | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| FFE801 | A8-8ZA-193-070 | | 8ZA-1 YFEUNC<HE> |
| J801 | 87-A60-657-010 | | TERMINAL,4P HSP-154V5-02<HE> |
| J802 | 87-033-241-010 | | TERMINAL,ANT 2P AJ-2039<K,EZ> |
| J940 | 81-754-629-010 | | CONNECTOR, 2P<HE> |
| L771 | 87-A50-266-010 | | COIL,FM DET-2N(TOK) |
| L772 | 87-A90-052-010 | | FLTR,CFMT-450A(TOK)<HE> |
| L772 | 87-A90-733-010 | | FLTR,PCFAZH-450 (TOK)<K,EZ> |
| L781 | 87-005-847-080 | | COIL,2.2UH(CECS) |
| L791 | 87-A50-027-010 | | COIL,1 POLE MPX(TOK) |
| L792 | 87-A50-027-010 | | COIL,1 POLE MPX(TOK) |
| L832 | 87-005-847-080 | | COIL,2.2UH(CECS) |
| L941 | 87-A50-020-010 | | COIL,ANT LW(COI)252 KHZ<K,EZ> |
| L941 | 87-A50-022-010 | | COIL,ANT SW(COI)7.96MHZ<HE> |
| L942 | 87-A50-019-010 | | COIL,OSC LW(COI)856KHZ<K,EZ> |
| L942 | 87-A50-173-010 | | COIL,OSC SW-N(COI)<HE> |
| L943 | 87-005-372-080 | | COIL S 1MHM<HE> |
| L944 | 87-A50-159-010 | | COIL,10MH K C2B<HE> |
| L981 | 86-NF4-666-010 | | AM PACK 3(TOK)<HE> |
| L981 | 87-NF4-651-010 | | COIL,AM PACK2N(TOM)<K,EZ> |
| TC941 | 87-011-173-010 | | CERAMIC TRIMMER 20P<HE> |
| TC942 | 87-011-164-010 | | CAPACITOR,TRIMMER 30P<K,EZ> |
| TC943 | 87-011-164-010 | | CAPACITOR,TRIMMER 30P<HE> |
| X721 | 87-A70-061-010 | | VIB,XTAL 4.500MHZ CSA-309 |
| X771 | 87-030-354-010 | | VIB,CF BFU 450C<HE> |
| X851 | 87-A70-091-010 | | VIB,XTAL 4.332MHZ CSA-309<EZ> |

PROLOGIC C.B

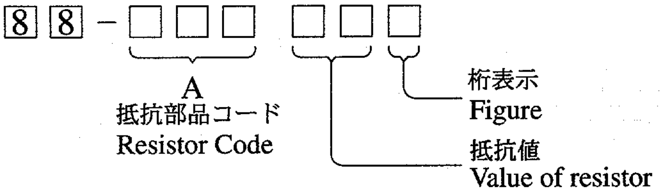
| REF. NO. | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| C401 | 87-010-404-080 | | CAP, ELECT 4.7-50V |
| C402 | 87-010-404-080 | | CAP, ELECT 4.7-50V |
| C403 | 87-010-401-080 | | CAP, ELECT 1-50V |
| C404 | 87-010-401-080 | | CAP, ELECT 1-50V |
| C405 | 87-010-401-080 | | CAP, ELECT 1-50V |
| C406 | 87-010-401-080 | | CAP, ELECT 1-50V |
| C407 | 87-016-669-080 | | C-CAP,S 0.1-25 K B |
| C408 | 87-010-544-080 | | CAP, ELECT 0.1-50V |
| C410 | 87-010-401-080 | | CAP, ELECT 1-50V |
| C412 | 87-012-349-080 | | C-CAP,S 1000P-50 CH |
| C418 | 87-012-349-080 | | C-CAP,S 1000P-50 CH |
| C419 | 87-010-401-080 | | CAP, ELECT 1-50V |
| C420 | 87-010-401-080 | | CAP, ELECT 1-50V |
| C423 | 87-A10-229-080 | | C-CAP,S 0.68-10 K W5 |
| C424 | 87-016-460-080 | | C-CAP,S 0.22-16 B |
| C425 | 87-016-460-080 | | C-CAP,S 0.22-16 B |
| C426 | 87-010-404-080 | | CAP, ELECT 4.7-50V |
| C427 | 87-010-404-080 | | CAP, ELECT 4.7-50V |
| C428 | 87-016-460-080 | | C-CAP,S 0.22-16 B |
| C429 | 87-016-460-080 | | C-CAP,S 0.22-16 B |
| C430 | 87-016-669-080 | | C-CAP,S 0.1-25 K B |
| C433 | 87-016-669-080 | | C-CAP,S 0.1-25 K B |
| C434 | 87-016-669-080 | | C-CAP,S 0.1-25 K B |
| C437 | 87-016-669-080 | | C-CAP,S 0.1-25 K B |
| C438 | 87-010-994-080 | | C-CAP,S 680P-50 CH |
| C439 | 87-010-994-080 | | C-CAP,S 680P-50 CH |
| C444 | 87-A10-891-080 | | CAP,E 4.7-25 SME(K) |
| C446 | 87-010-374-080 | | CAP, ELECT 47-10V |
| C447 | 87-010-405-080 | | CAP,E 10-50 M SME |
| C451 | 87-010-112-080 | | CAP, ELECT 100-16V |
| C452 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C453 | 87-010-248-080 | | CAP, ELECT 220-10V |
| C454 | 87-010-263-080 | | CAP, ELECT 100-10V |
| C455 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C456 | 87-010-374-080 | | CAP, ELECT 47-10V |
| C457 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C458 | 87-010-374-080 | | CAP, ELECT 47-10V |
| C459 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C461 | 87-010-314-080 | | C-CAP,S 22P-50V |
| C462 | 87-010-314-080 | | C-CAP,S 22P-50V |
| C463 | 87-010-314-080 | | C-CAP,S 22P-50V |
| C801 | 87-010-401-080 | | CAP, ELECT 1-50V |

| REF. NO. | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| C802 | 87-010-401-080 | | CAP, ELECT 1-50V |
| C805 | 87-010-154-080 | | CAP CHIP 10P |
| C806 | 87-010-378-080 | | CAP, ELECT 10-16V |
| C807 | 87-010-378-080 | | CAP, ELECT 10-16V |
| C841 | 87-010-154-080 | | CAP CHIP 10P |
| C851 | 87-010-374-080 | | CAP, ELECT 47-10V |
| C852 | 87-010-374-080 | | CAP, ELECT 47-10V |
| C853 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C854 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C855 | 87-010-374-080 | | CAP, ELECT 47-10V |
| C856 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C857 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C858 | 87-010-374-080 | | CAP, ELECT 47-10V |
| C881 | 87-010-260-080 | | CAP, ELECT 47-25V |
| AC2 C.B | | | |
| ⚠ C136 | 87-010-196-080 | | C-CAP,S 0.1-25 ZF<K,EZ> |
| ⚠ PR101 | 87-A90-195-080 | | PROTECTOR,7A 491 SERIES 60V |
| ⚠ PR102 | 87-A90-195-080 | | PROTECTOR,7A 491 SERIES 60V |
| ⚠ PR103 | 87-026-682-080 | | PROTECTOR,10A 491 SERIES 60V |
| ⚠ PR104 | 87-026-682-080 | | PROTECTOR,10A 491 SERIES 60V |
| ⚠ PR105 | 87-026-681-080 | | PROTECTOR,5A 491 SERIES 60 V |
| ⚠ PR106 | 87-026-681-080 | | PROTECTOR,5A 491 SERIES 60 V |

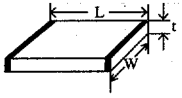
| REF. NO. | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| AC1 C.B | | | |
| ⚠ F101 | 87-035-368-010 | | FUSE,4A 250V T<HE> |
| ⚠ FC101 | 87-033-213-080 | | CLAMP, FUSE<HE> |
| ⚠ FC102 | 87-033-213-080 | | CLAMP, FUSE<HE> |
| ⚠ PT101 | 88-SPM-602-010 | | PT,HE<HE> |
| ⚠ PT101 | 88-SPM-604-010 | | PT,EZ<EZ> |
| ⚠ PT101 | 88-SPM-606-010 | | PT,K<K> |
| ⚠ T101 | 87-A60-317-010 | | TERMINAL, 1P MSC |
| ⚠ T102 | 87-A60-317-010 | | TERMINAL, 1P MSC |
| AC1 SW C.B<HE> | | | |
| ⚠ S101 | 87-036-173-010 | | SW,SL 2-2-4 SDKG<HE> |
| VM C.B | | | |
| CONN 8P C.B | | | |
| CN905 | 87-099-196-010 | | CONN,8P 6216 V |

## Oチップ抵抗部品コード／CHIP RESISTOR PART CODE

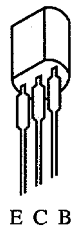
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding


8 8 - □□□ □□□
A
抵抗部品コード
Resistor Code
桁表示
Figure
抵抗値
Value of resistor

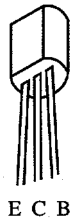
チップ抵抗
Chip resistor

| 容量<br>Wattage | 種類<br>Type | 許容誤差<br>Tolerance | 記号<br>Symbol | 寸法／Dimensions (mm) | | | | 抵抗コード : A<br>Resistor Code : A |
|---|---|---|---|---|---|---|---|---|
| | | | | 外形／Form | L | W | t | |
| 1/16W | 1608 | ±5% | CJ |  | 1.6 | 0.8 | 0.45 | 108 |
| 1/10W | 2125 | ±5% | CJ | | 2 | 1.25 | 0.45 | 118 |
| 1/8W | 3216 | ±5% | CJ | | 3.2 | 1.6 | 0.55 | 128 |

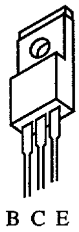
# TRANSISTOR ILLUSTRATION (MX-NAVH1000)



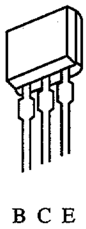
KTA1266GR
KTC3198GR



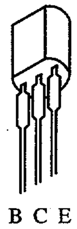
CC5551
CSD1489B
2SA952K



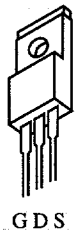
2SB1370
FN1016
FP1016



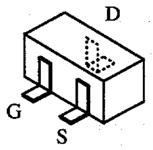
2SC4115S



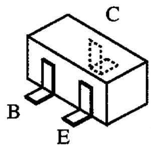
2SA1296



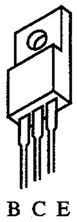
2SK2937



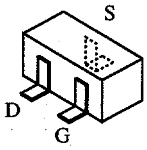
2SK2158



RT1N141C
RT1N441C
2SA1235
CSD1306E
2SC3052
RT1N144C
RT1P144C
RT1P141C
CMBT5551
CMBT5401
2SC2714
RN1410
DTA143EK

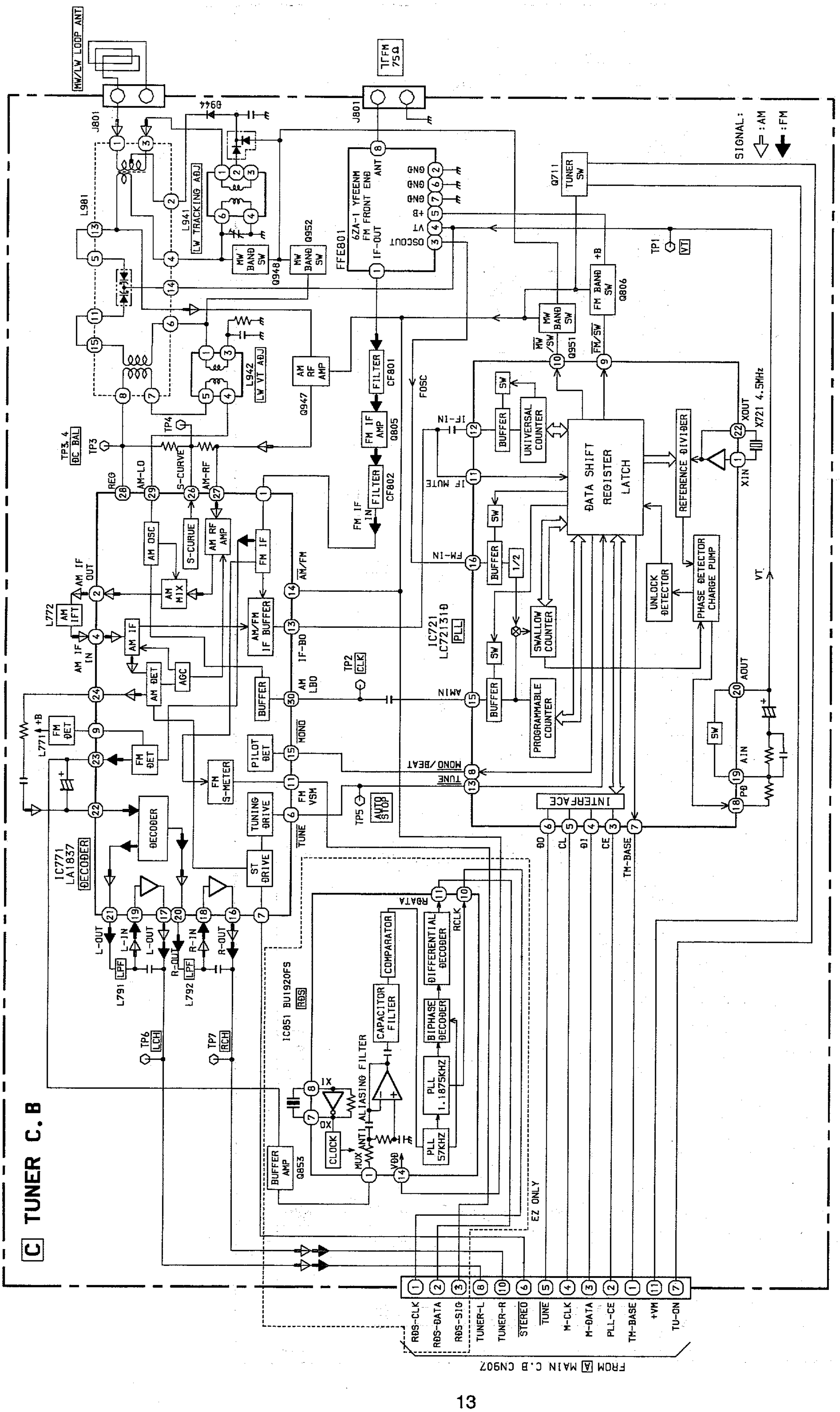


2SB1626
2SD2495



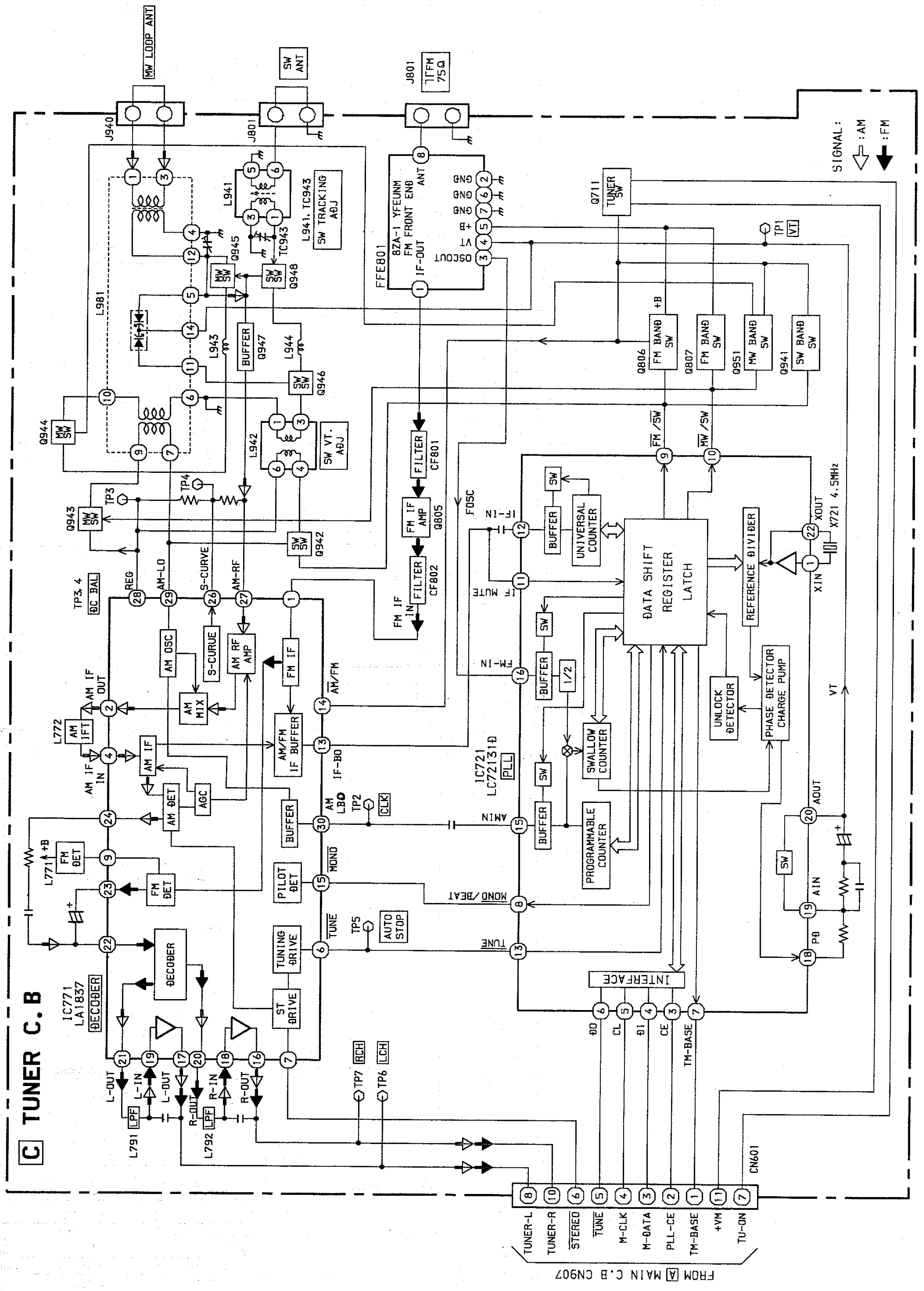
2SK360E

# BLOCK DIAGRAM – 1 (TUNER : MX-NAVH1000 <EZ, K>)



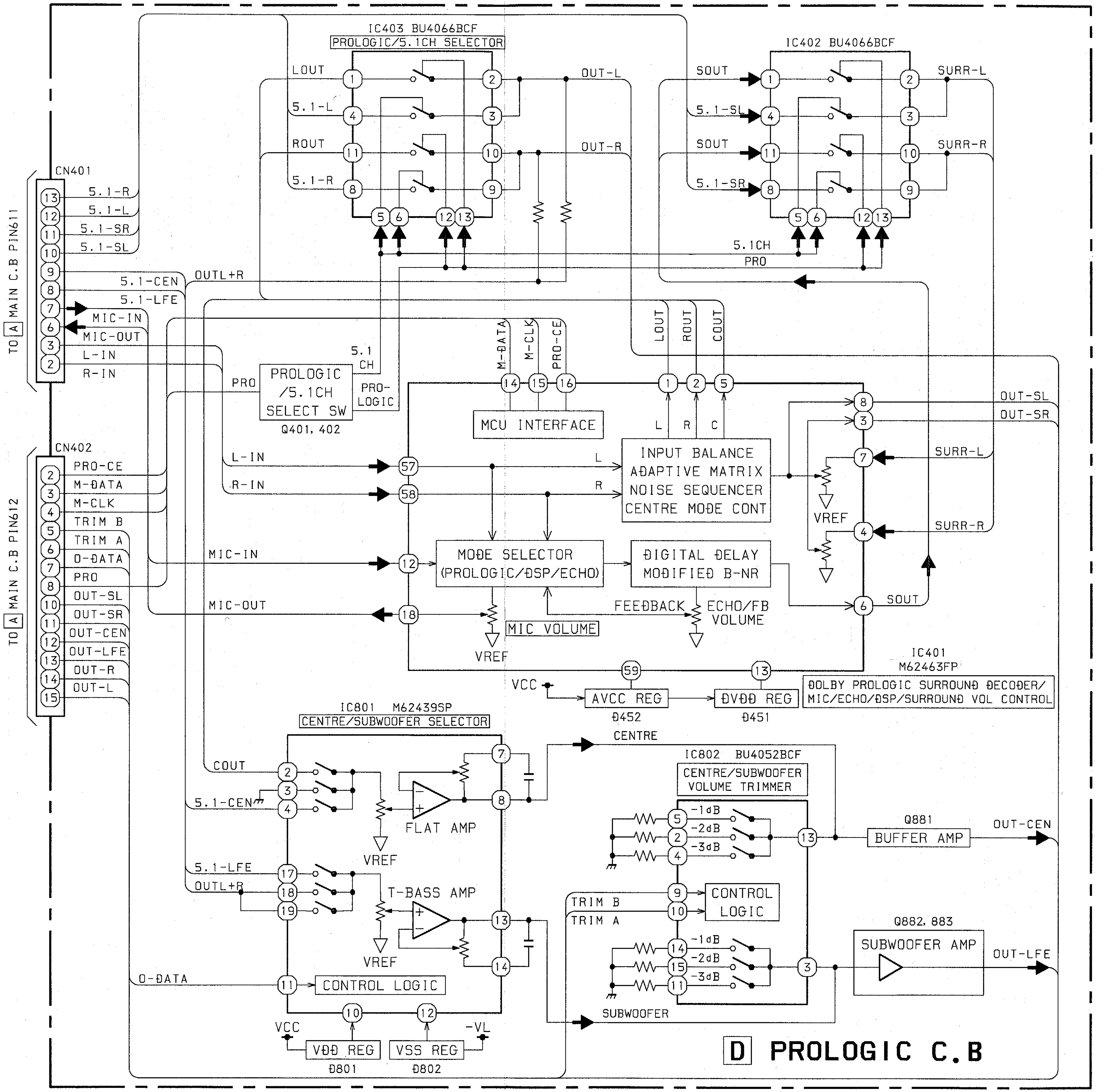
C TUNER C. B
MW/LW LOOP ANT
FM 75Ω
J801
L981
L941 LW TRACKING ADJ
L942 LW VT ADJ
D944
MW BAND SW Q948
MW BAND SW Q952
AM RF AMP Q947
FFE801 6ZA-1 YFEENM FM FRONT END
ANT
GND
+B
VT
OSCOUT
IF-OUT
FILTER CF801
FM IF AMP Q805
FILTER CF802
FM IF IN
FOSC
Q711 TUNER SW
TP1 VT
FM BAND SW Q806
MW/SW BAND SW Q951
SIGNAL: :AM :FM
IC771 LA1837 DECODER
REG
AM-LO
S-CURVE
AM-RF
AM OSC
S-CURVE
AM RF AMP
FM IF
AM MIX
AM IF OUT
L772 AM IFT
AM IF IN
AM IF
AM/FM IF BUFFER
AM/FM
IF-BO
AM DET
AGC
BUFFER
AM LBO
FM DET
L771
PILOT DET
MONO
FM S-METER
FM VSM
TUNING DRIVE
TUNE
DECODER
ST DRIVE
L-OUT
L-IN
R-OUT
R-IN
L791 LPF
L792 LPF
TP3 TP3,4 DC BAL
TP4
TP2 CLK
TP5 AUTO STOP
TP6 LCH
TP7 RCH
IC721 LC72131D PLL
IF-IN
IF MUTE
FM-IN
AMIN
MONO/BEAT
TUNE
BUFFER
SW
UNIVERSAL COUNTER
1/2
SWALLOW COUNTER
PROGRAMMABLE COUNTER
DATA SHIFT REGISTER LATCH
REFERENCE DIVIDER
UNLOCK DETECTOR
PHASE DETECTOR CHARGE PUMP
XOUT
X721 4.5MHz
XIN
AOUT
AIN
PD
INTERFACE
DO
CL
DI
CE
TM-BASE
IC851 BU1920FS RDS
RDATA
RCLK
COMPARATOR
DIFFERENTIAL DECODER
CAPACITOR FILTER
BIPHASE DECODER
PLL 1.1875KHZ
PLL 57KHZ
ANTI ALIASING FILTER
CLOCK
MUX
VDD
1X
OX
BUFFER AMP Q853
EZ ONLY
RDS-CLK
RDS-DATA
RDS-SIG
TUNER-L
TUNER-R
STEREO
TUNE
M-CLK
M-DATA
PLL-CE
TM-BASE
+VM
TU-ON
FROM A MAIN C.B CN907

# BLOCK DIAGRAM – 2 (TUNER : MX–NAVH1000 <HE>)

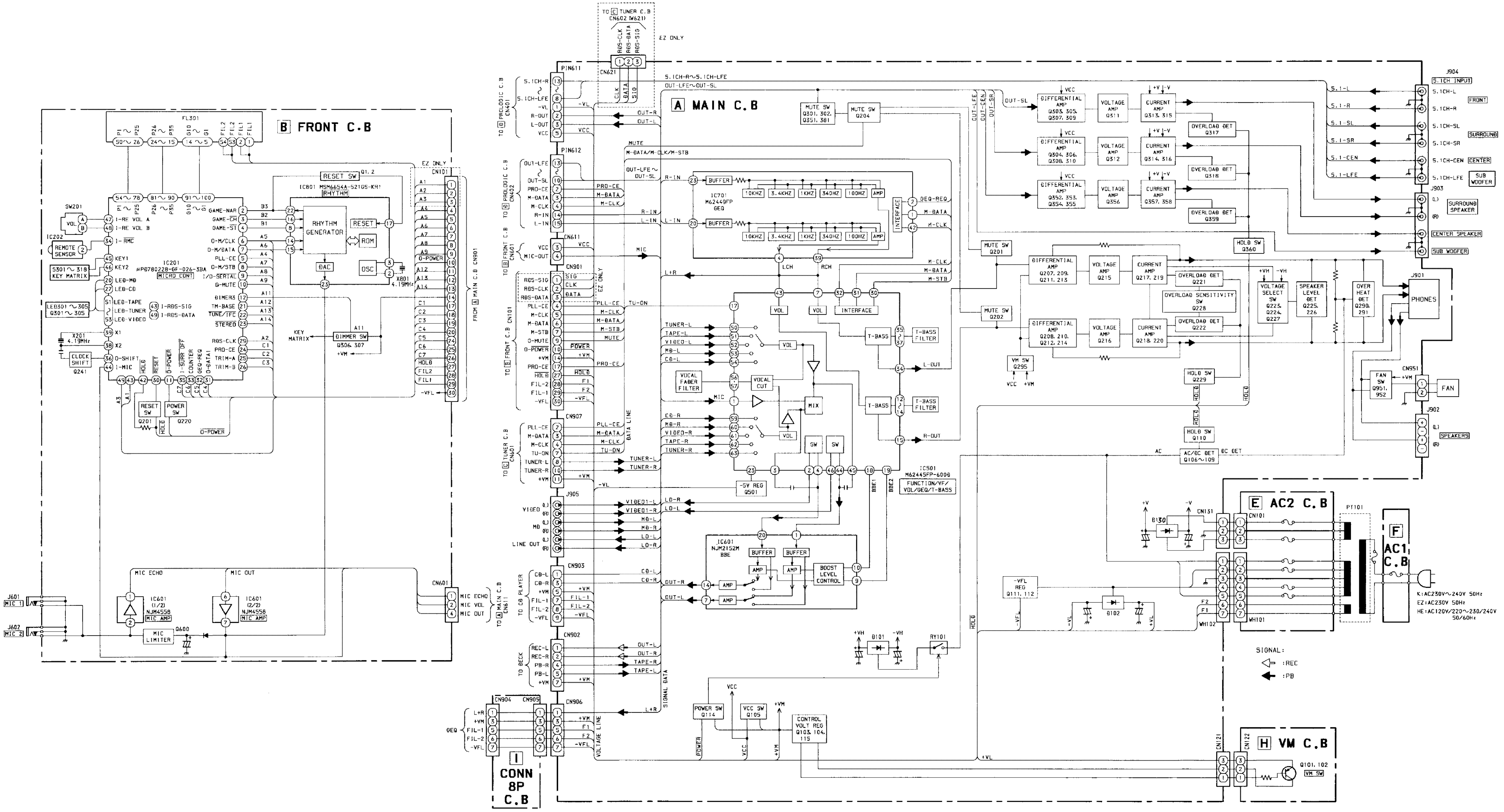


C TUNER C.B
MW LOOP ANT
SW ANT
J801
FM 75Ω
J940
SIGNAL: ⇩ :AM ⬇ :FM
L981
L941
L941, TC943 SW TRACKING ADJ
TC943
Q945 MW SW
Q948 SW SW
Q947 BUFFER
L943
L944
Q946 SW SW
L942
SW VT. ADJ
Q944 MW SW
Q943 MW SW
Q942 SW SW
TP3
TP4
TP3, 4 DC BAL
REG
AM-LO
S-CURVE
AM-RF
FFE801
8ZA-1 YFEUNM FM FRONT END
ANT
GND
B+
VT
OSCOUT
IF-OUT
Q711 TUNER SW
TP1 VT
+B
Q806 FM BAND SW
Q807 FM BAND SW
Q951 MW BAND SW
Q941 SW BAND SW
FM /SW
MW /SW
FILTER CF801
FM IF AMP Q805
FILTER CF802
FM IF IN
FOSC
IF-IN
IF MUTE
FM-IN
AMIN
MONO/BEAT
TUNE
BUFFER
UNIVERSAL COUNTER
SW
1/2
SWALLOW COUNTER
PROGRAMMABLE COUNTER
DATA SHIFT REGISTER LATCH
REFERENCE DIVIDER
UNLOCK DETECTOR
PHASE DETECTOR CHARGE PUMP
XOUT
X721 4.5MHz
XIN
VT
AOUT
AIN
PD
INTERFACE
DO
CL
DI
CE
TM-BASE
IC721 LC72131D PLL
AM OSC
S-CURVE
AM RF AMP
FM IF
AM MIX
AM/FM IF BUFFER
AM/FM
IF-BO
AM IF OUT
AM IFT
L772
AM IF IN
AM IF
AGC
AM DET
BUFFER
AM LBO
TP2 CLK
FM DET
L771
PILOT DET
MONO
TUNING DRIVE
TUNE
TP5
AUTO STOP
DECODER
ST DRIVE
IC771 LA1837 DECODER
L-OUT
L-IN
R-OUT
R-IN
LPF
L791
L792
TP7 RCH
TP6 LCH
CN601
TUNER-L
TUNER-R
STEREO
TUNE
M-CLK
M-DATA
PLL-CE
TM-BASE
+VM
TU-ON
FROM A MAIN C.B CN907

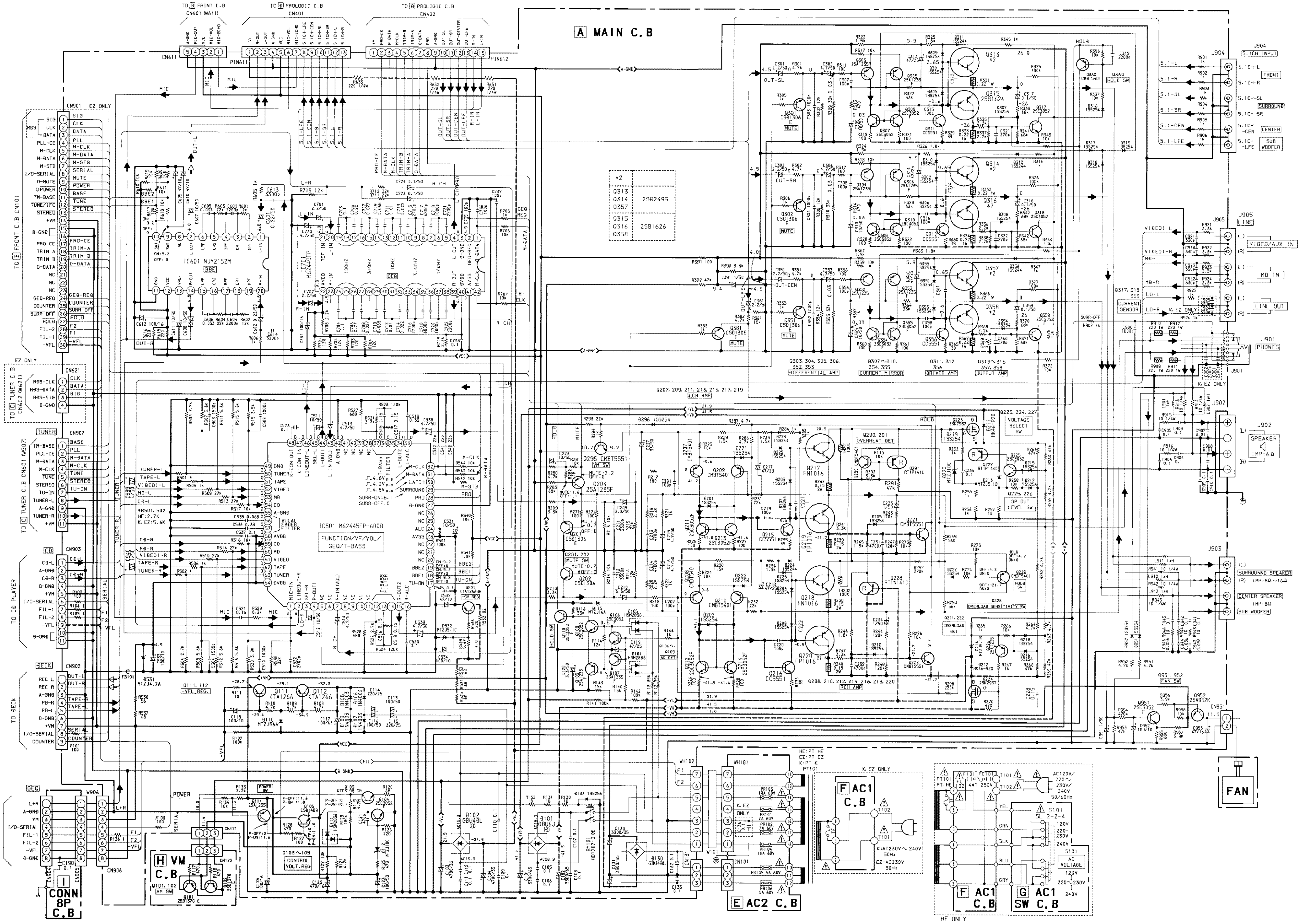
# BLOCK DIAGRAM – 3 (PROLOGIC : MX-NAVH1000)


IC403 BU4066BCF
PROLOGIC/5.1CH SELECTOR
LOUT
5.1-L
ROUT
5.1-R
OUT-L
OUT-R
IC402 BU4066BCF
SOUT
5.1-SL
5.1-SR
SURR-L
SURR-R
5.1CH
PRO
CN401
5.1-R
5.1-L
5.1-SR
5.1-SL
5.1-CEN
5.1-LFE
OUTL+R
MIC-IN
MIC-OUT
L-IN
R-IN
TO A MAIN C.B PIN611
PROLOGIC /5.1CH SELECT SW
Q401, 402
PRO
5.1 CH
PRO-LOGIC
M-DATA
M-CLK
PRO-CE
LOUT
ROUT
COUT
MCU INTERFACE
L R C
OUT-SL
OUT-SR
CN402
PRO-CE
M-DATA
M-CLK
TRIM B
TRIM A
O-DATA
PRO
OUT-SL
OUT-SR
OUT-CEN
OUT-LFE
OUT-R
OUT-L
TO A MAIN C.B PIN612
L-IN
R-IN
INPUT BALANCE
ADAPTIVE MATRIX
NOISE SEQUENCER
CENTRE MODE CONT
VREF
SURR-L
SURR-R
MIC-IN
MODE SELECTOR
(PROLOGIC/DSP/ECHO)
DIGITAL DELAY
MODIFIED B-NR
MIC-OUT
FEEDBACK
ECHO/FB VOLUME
SOUT
MIC VOLUME
VREF
IC401
M62463FP
DOLBY PROLOGIC SURROUND DECODER/
MIC/ECHO/DSP/SURROUND VOL CONTROL
VCC
AVCC REG
D452
DVDD REG
D451
IC801 M62439SP
CENTRE/SUBWOOFER SELECTOR
COUT
5.1-CEN
FLAT AMP
VREF
5.1-LFE
OUTL+R
T-BASS AMP
VREF
O-DATA
CONTROL LOGIC
VCC
VDD REG
D801
VSS REG
D802
-VL
CENTRE
IC802 BU4052BCF
CENTRE/SUBWOOFER
VOLUME TRIMMER
-1dB
-2dB
-3dB
CONTROL
LOGIC
TRIM B
TRIM A
-1dB
-2dB
-3dB
SUBWOOFER
Q881
BUFFER AMP
OUT-CEN
Q882, 883
SUBWOOFER AMP
OUT-LFE
D PROLOGIC C.B

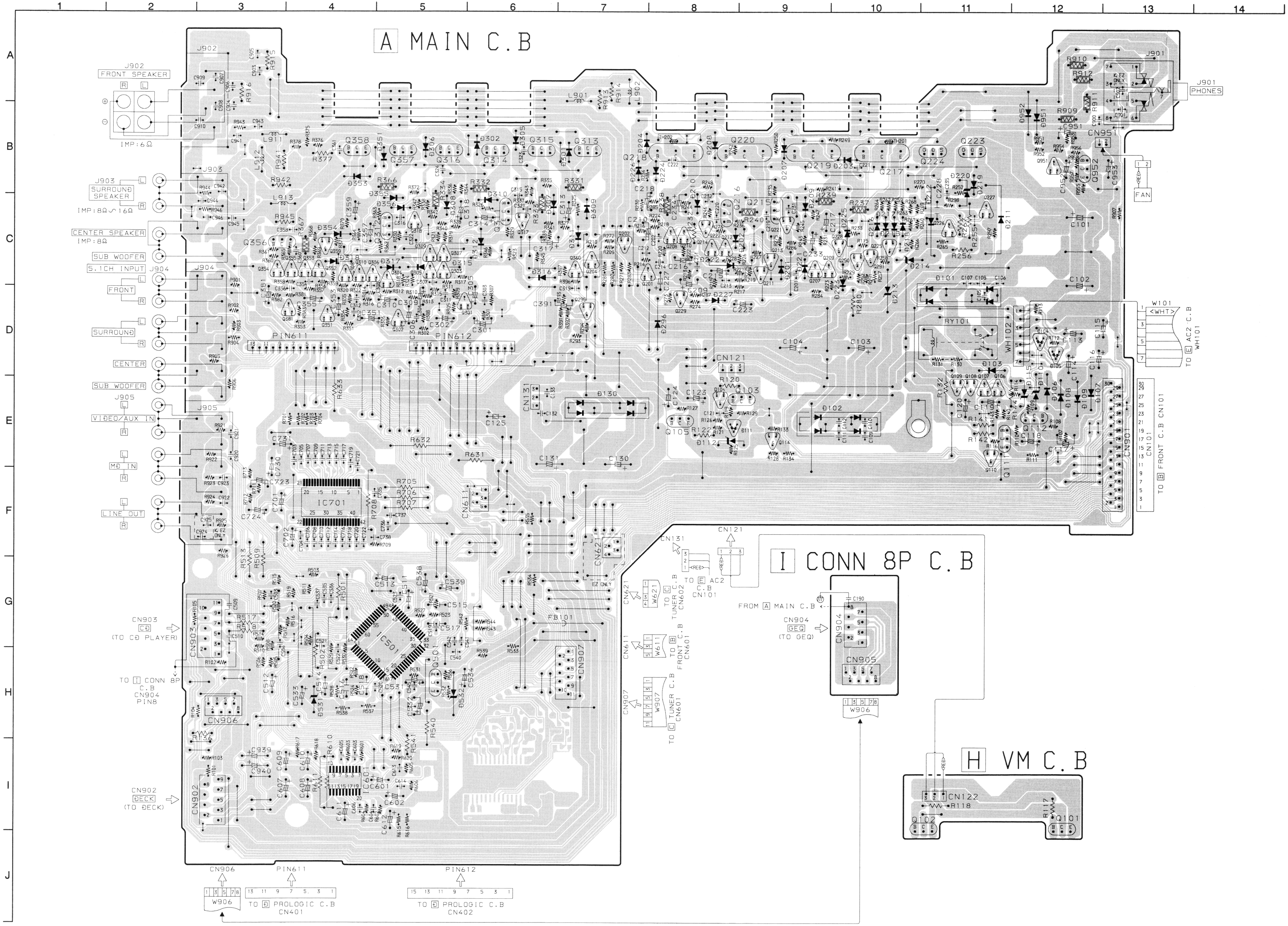
# BLOCK DIAGRAM – 4 (MAIN/FRONT : MX-NAVH1000)

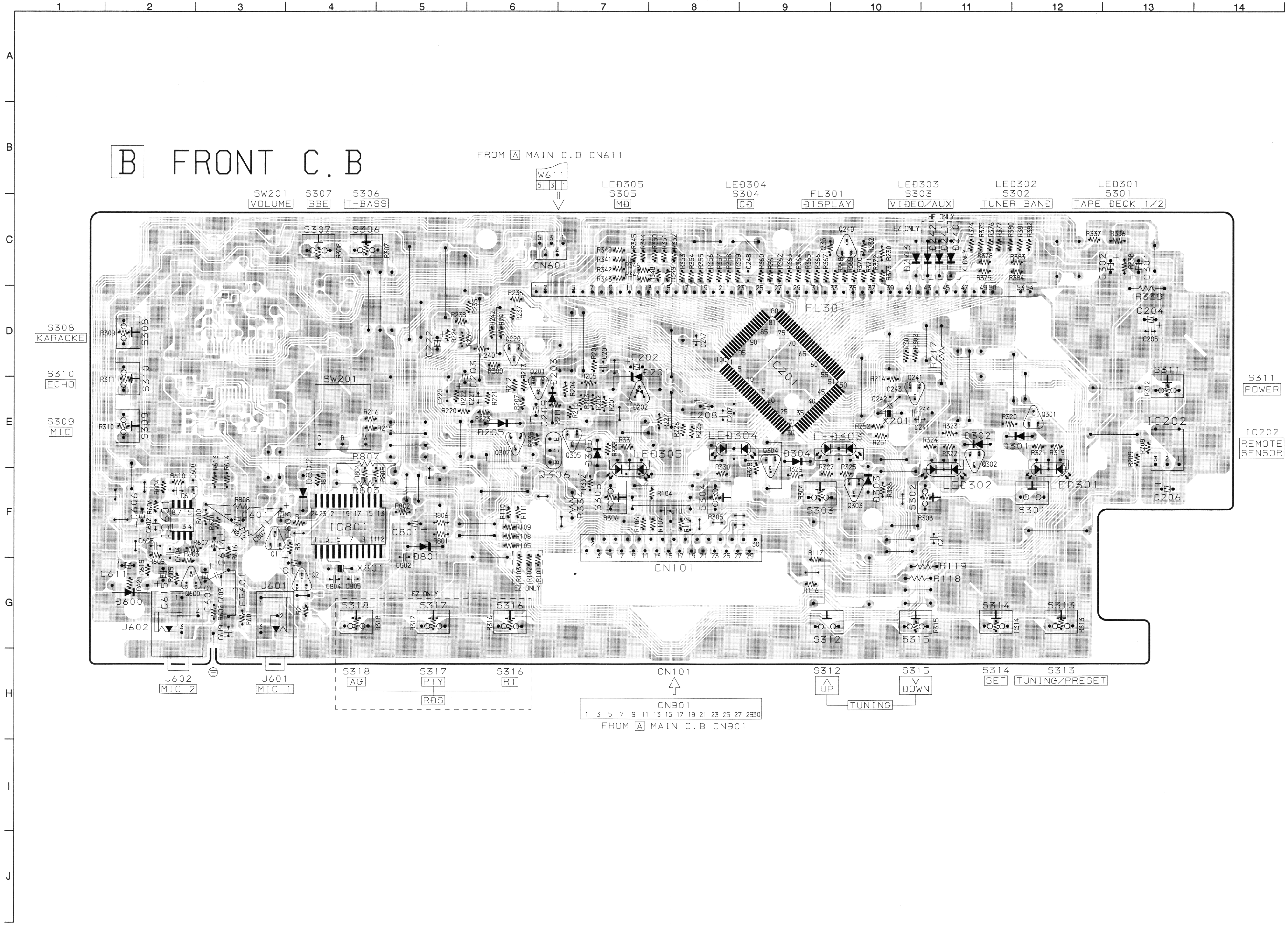

B FRONT C.B
FL301
IC801 MSM6654A-521GS-KR1
RHYTHM
RHYTHM GENERATOR
RESET SW
RESET
ROM
DAC
OSC
X801 4.19MHz
IC201 µPD780228-GF-026-3BA
MICRO CONT
SW201
VOL
IC202
REMOTE SENSOR
S301~318 KEY MATRIX
LED301~305 Q301~305
X201 4.19MHz
CLOCK SHIFT Q241
DIMMER SW Q306, 307
KEY MATRIX
RESET SW Q201
POWER SW Q220
D-POWER
EZ ONLY
CN101
FROM A MAIN C.B CN901
MIC ECHO
MIC OUT
IC601 (1/2) NJM4558 MIC AMP
IC601 (2/2) NJM4558 MIC AMP
MIC LIMITER
Q600
J601 MIC 1
J602 MIC 2
CN601
MIC ECHO
MIC VOL
MIC OUT
TO C TUNER C.B CN602 (W621)
RDS-CLK
RDS-DATA
RDS-SIG
CN621
A MAIN C.B
PIN611
PIN612
CN611
CN901
CN907
CN903
CN902
CN906
J905
TO D PROLOGIC C.B CN401
TO D PROLOGIC C.B CN432
TO B FRONT C.B CN601
TO B FRONT C.B CN101
TO C TUNER C.B CN601
TO CD PLAYER
TO A MAIN C.B CN611
TO DECK
VIDEO
MD
LINE OUT
MUTE SW Q301, 302, 351, 381
MUTE SW Q204
IC701 M62449FP GEQ
BUFFER
10KHZ
3.4KHZ
1KHZ
340HZ
100HZ
AMP
INTERFACE
GEQ-REQ
M-DATA
M-CLK
M-STB
LCH
RCH
VOL
MIX
T-BASS
T-BASS FILTER
VOCAL FADER FILTER
VOCAL CUT
SW
-5V REG Q501
IC501 M62445FP-600G FUNCTION/VF/VOL/GEQ/T-BASS
IC601 NJM2152M BBE
BOOST LEVEL CONTROL
DIFFERENTIAL AMP Q303, 305, 307, 309
DIFFERENTIAL AMP Q304, 306, 308, 310
DIFFERENTIAL AMP Q352, 353, 354, 355
VOLTAGE AMP Q311
VOLTAGE AMP Q312
VOLTAGE AMP Q356
CURRENT AMP Q313, 315
CURRENT AMP Q314, 316
CURRENT AMP Q357, 358
OVERLOAD DET Q317
OVERLOAD DET Q318
OVERLOAD DET Q359
HOLD SW Q360
MUTE SW Q201
MUTE SW Q202
DIFFERENTIAL AMP Q207, 209, 211, 213
DIFFERENTIAL AMP Q208, 210, 212, 214
VOLTAGE AMP Q215
VOLTAGE AMP Q216
CURRENT AMP Q217, 219
CURRENT AMP Q218, 220
OVERLOAD DET Q221
OVERLOAD DET Q222
OVERLOAD SENSITIVITY SW Q228
VOLTAGE SELECT SW Q223, 224, 227
SPEAKER LEVEL DET Q225, 226
OVER HEAT DET Q290, 291
VM SW Q295
HOLD SW Q229
HOLD SW Q110
AC/DC DET Q106~109
FAN SW Q951, 952
CN951
FAN
J901
PHONES
J904
5.1CH INPUT
5.1CH-L
5.1CH-R
FRONT
5.1CH-SL
5.1CH-SR
SURROUND
5.1CH-CEN
CENTER
5.1CH-LFE
SUB WOOFER
J903
SURROUND SPEAKER
CENTER SPEAKER
SUB WOOFER
J902
SPEAKERS
E AC2 C.B
CN101
CN131
D130
PT101
F AC1 C.B
K:AC230V~240V 50Hz
EZ:AC230V 50Hz
HE:AC120V/220~230/240V 50/60Hz
WH101
WH102
-VFL REG Q111, 112
D101
D102
RY101
POWER SW Q114
VCC SW Q105
CONTROL VOLT REG Q103, 104, 115
SIGNAL:
:REC
:PB
H VM C.B
CN121
CN122
Q101, 102 VM SW
I CONN 8P C.B
CN904
CN909
GEQ
SIGNAL DATA
VOLTAGE LINE
DATA LINE

# SCHEMATIC DIAGRAM – 1 (MAIN : MX-NAVH1000)

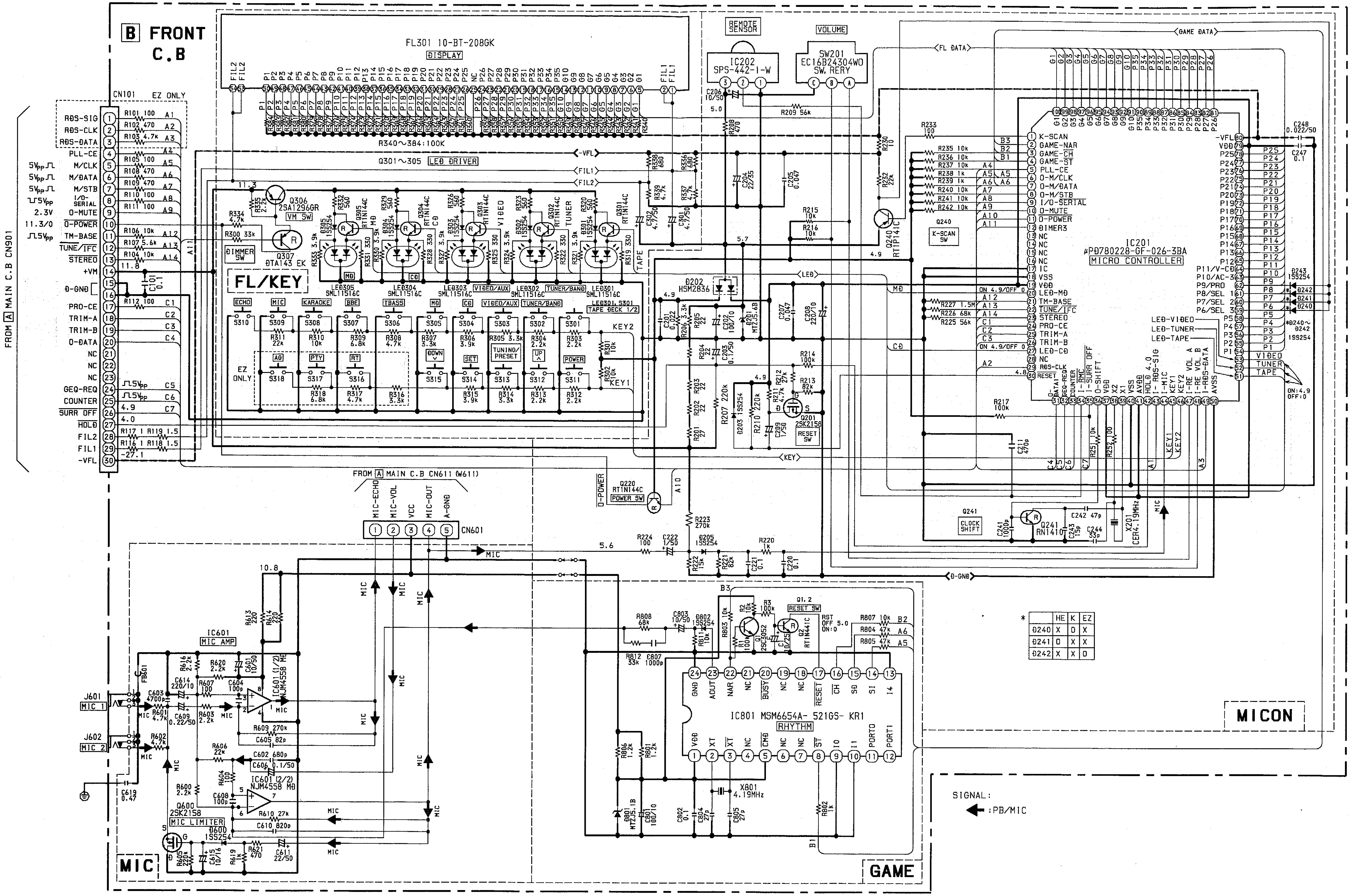

A MAIN C.B
TO B FRONT C.B CN601 (W611)
TO B PROLOGIC C.B CN401
TO B PROLOGIC C.B CN402
CN611
PIN611
PIN612
CN901 EZ ONLY
TO B FRONT C.B CN101
IC601 NJM2152M
IC701 M62449FP
IC501 M62445FP-600B
FUNCTION/VF/VOL/ GEQ/T-BASS
TO C TUNER C.B CN602 (W621)
CN621
TUNER
CN907
TO C TUNER C.B CN601 (W907)
CD
CN903
TO CD PLAYER
DECK
CN902
TO DECK
GEQ
W906
TO GEQ
CN905
CN906
I CONN 8P C.B
H VM C.B
Q101, 102 VM SW
Q111, 112 -VFL REG.
Q103~105 CONTROL VOLT. REG
*2
Q313 Q314 Q357 2SC2495
Q315 Q316 Q358 2SB1626
Q303, 304, 305, 306, 352, 353 DIFFERENTIAL AMP
Q307~310, 354, 355 CURRENT MIRROR
Q311, 312, 356 DRIVER AMP
Q313~316, 357, 358 OUTPUT AMP
Q207, 209, 211, 213, 215, 217, 219 LCH AMP
Q208, 210, 212, 214, 216, 218, 220 RCH AMP
Q290, 291 OVERHEAT DET
Q223, 224, 227 VOLTAGE SELECT SW
Q225, 226 SP CUT LEVEL SW
Q228 OVERLOAD SENSITIVITY SW
Q221, 222 OVERLOAD DET
Q201, 202 MUTE SW
Q295 CMBT5551 VM SW
Q951, 952 FAN SW
HOLD
Q360 HOLD SW
J904 5.1CH INPUT
5.1CH-L 5.1CH-R FRONT
5.1CH-SL 5.1CH-SR SURROUND
5.1CH-CEN CENTER
5.1CH-LFE SUB WOOFER
J905 LINE
VIDEO/AUX IN
MD IN
LINE OUT
Q317, 318, 359 CURRENT SENSOR
J901 PHONES
K, EZ ONLY
J902
SPEAKER IMP:6Ω
J903
SURROUND SPEAKER IMP:8Ω~16Ω
CENTER SPEAKER IMP:8Ω
SUB WOOFER
CN951
FAN
WH102
WH101
E AC2 C.B
F AC1 C.B
K, EZ ONLY
K:AC230V~240V 50Hz
EZ:AC230V 50Hz
HE:PT HE EZ:PT EZ K:PT K PT101
AC120V/ 220~ 230V/ 240V 50/60Hz
S101 SL 2-2-4
S101 AC VOLTAGE 120V 220~230V 240V
F AC1 C.B
G AC1 SW C.B
HE ONLY
D130 GBU4DL
D101 GBU6J
D102 GBU4DL

# WIRING – 1 (MAIN : MX-NAVH1000)


A MAIN C.B
I CONN 8P C.B
H VM C.B
J902 FRONT SPEAKER
IMP:6Ω
J903 SURROUND SPEAKER
IMP:8Ω∽16Ω
CENTER SPEAKER IMP:8Ω
SUB WOOFER
5.1CH INPUT J904
FRONT
SURROUND
CENTER
SUB WOOFER
J905 VIDEO/AUX IN
MD IN
LINE OUT
CN903 CD (TO CD PLAYER)
TO I CONN 8P C.B CN904 PIN8
CN902 DECK (TO DECK)
CN906 W906
PIN611 TO D PROLOGIC C.B CN401
PIN612 TO D PROLOGIC C.B CN402
J901 PHONES
FAN
W101 <WHT> TO E AC2 C.B WH101
TO B FRONT C.B CN101
CN131 TO E AC2 C.B CN101
CN121
W621 TO C TUNER C.B CN602
W611 TO B FRONT C.B CN601
CN907 W907 TO C TUNER C.B CN601
FROM A MAIN C.B
CN904 GEQ (TO GEQ)
CN905
W906
CN122
IC701
IC501
IC601


1
2
3
4
5
6
7
8
9
10
11
12
13
14
A
B
C
D
E
F
G
H
I
J
B FRONT C.B
FROM A MAIN C.B CN611
W611
5 3 1
SW201 VOLUME
S307 BBE
S306 T-BASS
LED305 S305 MD
LED304 S304 CD
FL301 DISPLAY
LED303 S303 VIDEO/AUX
LED302 S302 TUNER BAND
LED301 S301 TAPE DECK 1/2
S308 KARAOKE
S310 ECHO
S309 MIC
S311 POWER
IC202 REMOTE SENSOR
CN601
FL301
IC201
SW201
IC801
IC601
X801
X201
CN101
EZ ONLY
HE ONLY
J601
J602
S318
S317
S316
S312
S315
S314
S313
J602 MIC 2
J601 MIC 1
S318 AG
S317 PTY
S316 RT
RDS
CN101
CN901
1 3 5 7 9 11 13 15 17 19 21 23 25 27 2930
FROM A MAIN C.B CN901
S312 UP
S315 DOWN
TUNING
S314 SET
S313 TUNING/PRESET

# SCHEMATIC DIAGRAM – 2 (FRONT: MX-NAVH1000)

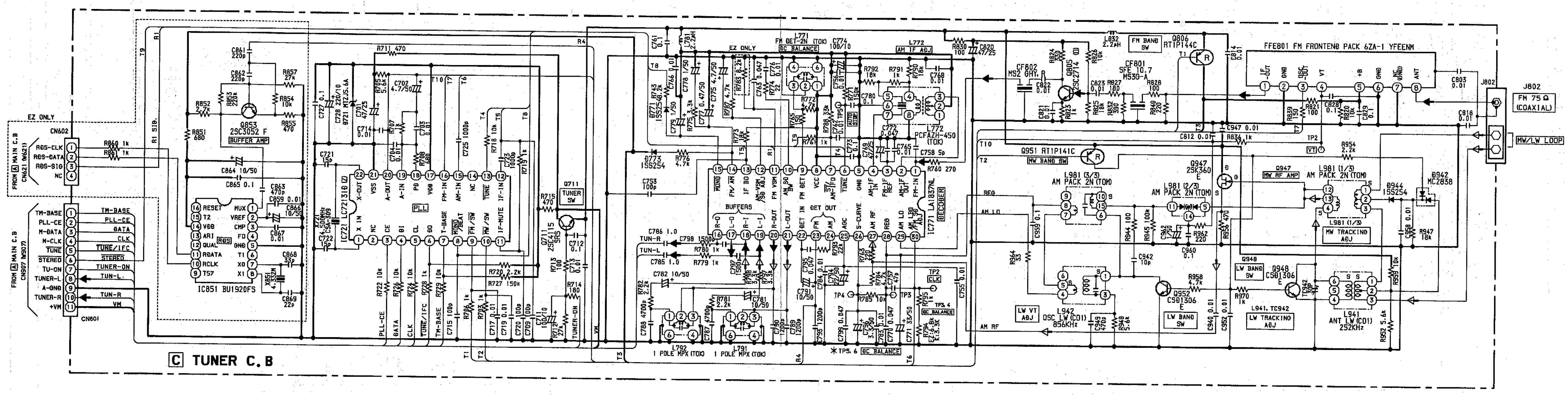

B FRONT C.B
FROM A MAIN C.B CN901
CN101
EZ ONLY
RDS-SIG
RDS-CLK
RDS-DATA
PLL-CE
M/CLK
M/DATA
M/STB
I/O-SERIAL
D-MUTE
D-POWER
TM-BASE
TUNE/IFC
STEREO
+VM
D-GND
PRO-CE
TRIM-A
TRIM-B
D-DATA
NC
GEQ-REQ
COUNTER
SURR OFF
HOLD
FIL2
FIL1
-VFL
FL301 10-BT-208GK
DISPLAY
R340～384:100K
Q301～305 LED DRIVER
Q306 2SA1296GR
VM SW
Q307 DTA143 EK
DIMMER SW
FL/KEY
LED305 SML11516C
LED304 SML11516C
LED303 SML11516C
LED302 SML11516C
LED301 SML11516C
MD
CD
VIDEO/AUX
TUNER/BAND
TAPE DECK 1/2
ECHO
MIC
KARAOKE
BBE
TBASS
S310
S309
S308
S307
S306
S305
S304
S303
S302
S301
KEY2
KEY1
AG
PTY
RT
DOWN
SET
TUNING/PRESET
UP
POWER
S318
S317
S316
S315
S314
S313
S312
S311
REMOTE SENSOR
IC202 SPS-442-1-W
VOLUME
SW201 EC16B24304WD SW, RERY
D202 HSM2836
D201 MTZJ5.1B
Q201 2SK2158
RESET SW
Q240 RT1P141C
K-SCAN SW
IC201 μPD780228-GF-026-3BA
MICRO CONTROLLER
K-SCAN
GAME-NAR
GAME-CH
GAME-ST
LED-MD
LED-CD
LED-VIDEO
LED-TUNER
LED-TAPE
VIDEO
TUNER
TAPE
ON:4.9 OFF:0
Q241 CLOCK SHIFT
Q241 RN1410
X201 CER4.19MHz
Q220 RT1N144C
D-POWER
POWER SW
GAME DATA
FL DATA
LED
KEY
D-GND
FROM A MAIN C.B CN611 (W611)
MIC-ECHO
MIC-VOL
VCC
MIC-OUT
A-GND
CN601
IC601 MIC AMP
IC601 (1/2) NJM4558 MD
IC601 (2/2) NJM4558 MD
Q600 2SK2158
MIC LIMITER
D600 1SS254
J601 MIC 1
J602 MIC 2
MIC
IC801 MSM6654A- 521GS- KR1
RHYTHM
Q1, 2 RESET SW
Q1 2SC3052
Q2 RT1N441C
X801 4.19MHz
D801 MTZJ5.1B
GAME
MICON

| * | HE | K | EZ |
|---|---|---|---|
| D240 | X | O | X |
| D241 | O | X | X |
| D242 | X | X | O |

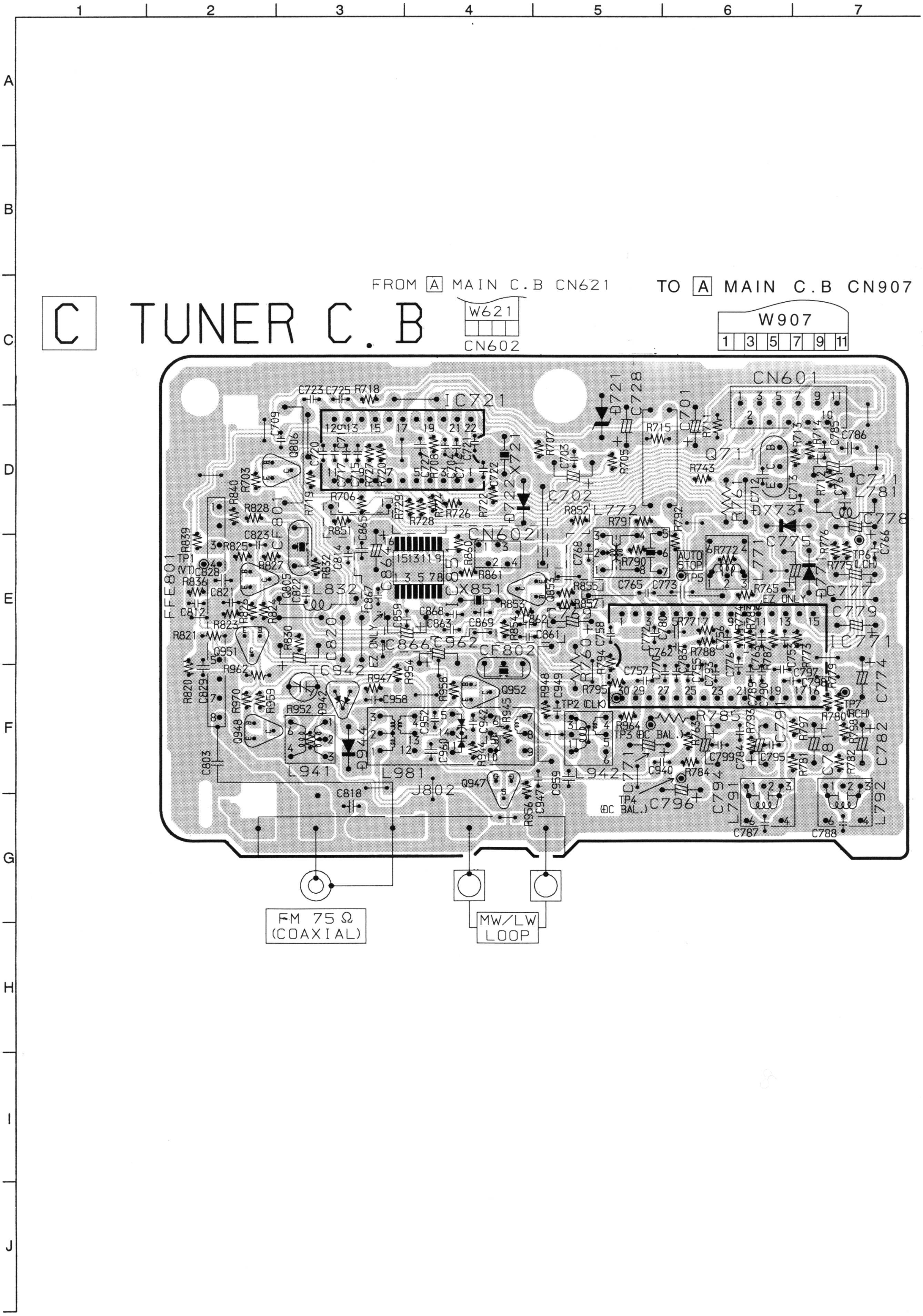
SIGNAL:

← :PB/MIC

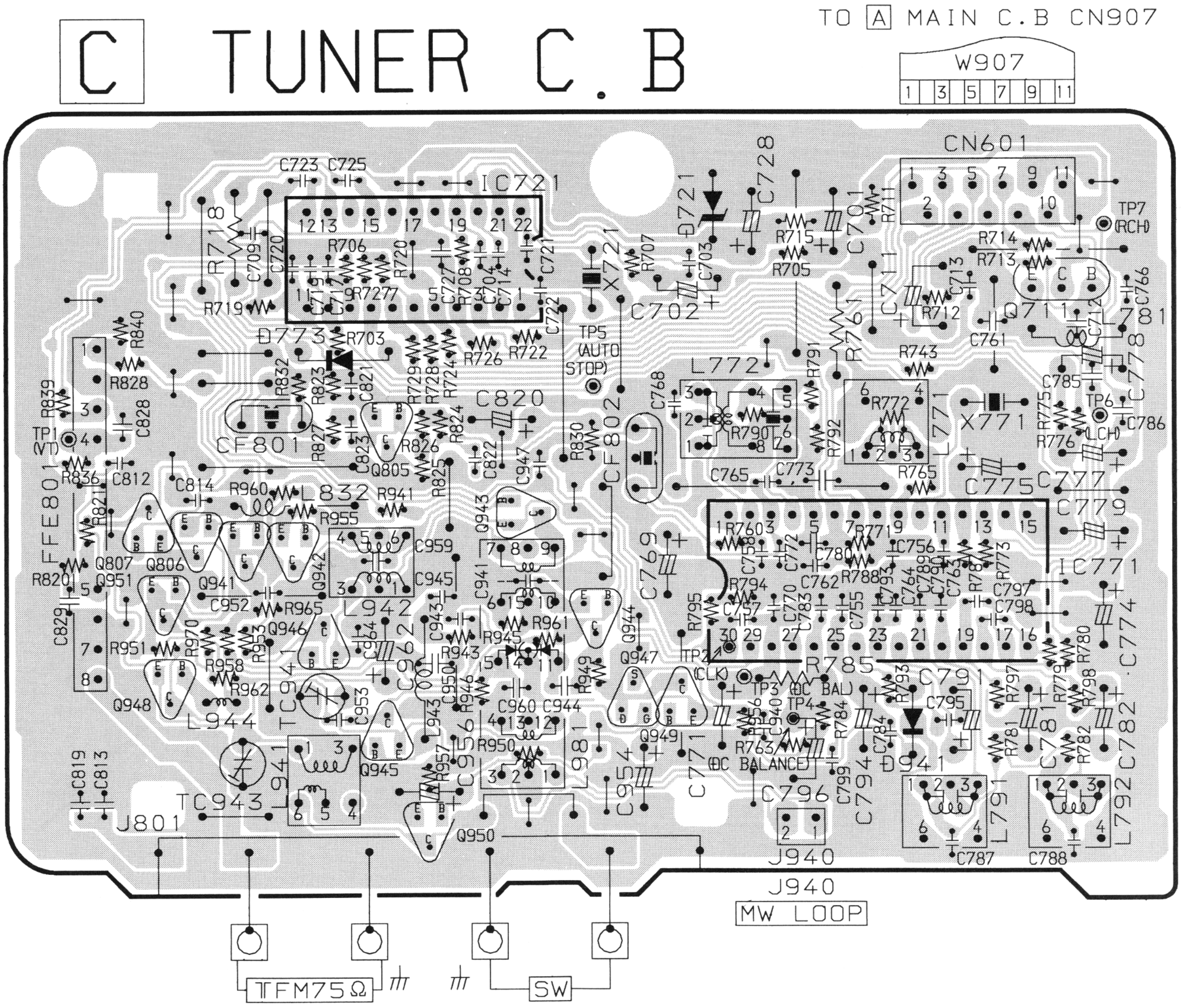
# SCHEMATIC DIAGRAM – 3 (TUNER : MX-NAVH1000 <EZ, K>)


EZ ONLY
CN602
FROM A MAIN C.B CN621 (W621)
RDS-CLK
RDS-DATA
RDS-SIG
NC
FROM A MAIN C.B CN907 (W907)
TM-BASE
PLL-CE
M-DATA
M-CLK
TUNE
STEREO
TU-ON
TUNER-L
A-GND
TUNER-R
+VM
CN601
Q853 2SC3052 F
BUFFER AMP
IC851 BU1920FS
RDS
IC721 LC72131D
PLL
Q711 2SC4115
TUNER SW
IC771 LA1837NL
DECODER
BUFFERS
L771 FM DET-2N (TOKO)
DC BALANCE
L772 AM IF ADJ
L772 PCFAZH-450 (TOKO)
L792 1 POLE MPX (TOKO)
L791 1 POLE MPX (TOKO)
*TP5, 6 DC BALANCE
CF802 MS2 6HY.R
Q805 2SC2714
CF801 SFE 10.7 MS30-A
Q806 RT1P144C
FM BAND SW
FFE801 FM FRONTEND PACK 6ZA-1 YFEENM
J802
FM 75 Ω (COAXIAL)
MW/LW LOOP
Q951 RT1P141C
MW BAND SW
Q947 2SK360
MW RF AMP
L981 (3/3) AM PACK 2N (TOKO)
L981 (2/3) AM PACK 2N (TOKO)
L981 (1/3) AM PACK 2N (TOKO)
Q944 1SS254
Q942 MC2838
MW TRACKING ADJ
LW VT ADJ
L942 OSC LW (CO1) 856KHz
LW BAND SW
LW TRACKING ADJ
L941 ANT LW (CO1) 252KHz
C TUNER C.B

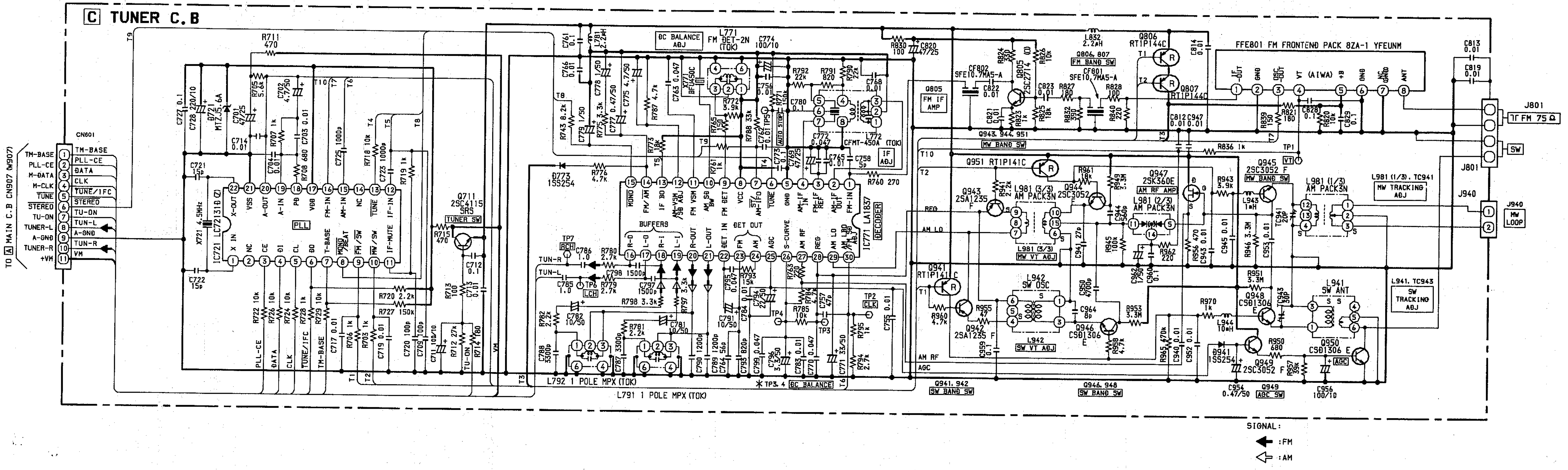
# WIRING – 3 (TUNER : MX-NAVH1000 <EZ, K>)


1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
I
J
C TUNER C.B
FROM A MAIN C.B CN621
W621
CN602
TO A MAIN C.B CN907
W907
1 3 5 7 9 11
CN601
IC721
IC771
CN602
CX851
CF801
CF802
FFE801
L832
L941
L942
L981
J802
L771
L772
L781
L791
L792
Q711
Q806
Q805
Q853
Q951
Q952
Q947
Q948
D721
D722
D773
X721
TC942
AUTO STOP
TP1 (VT)
TP2 (CLK)
TP3 (DC BAL.)
TP4 (DC BAL.)
TP5
TP6 (LCH)
TP7 (RCH)
EZ ONLY
FM 75 Ω (COAXIAL)
MW/LW LOOP

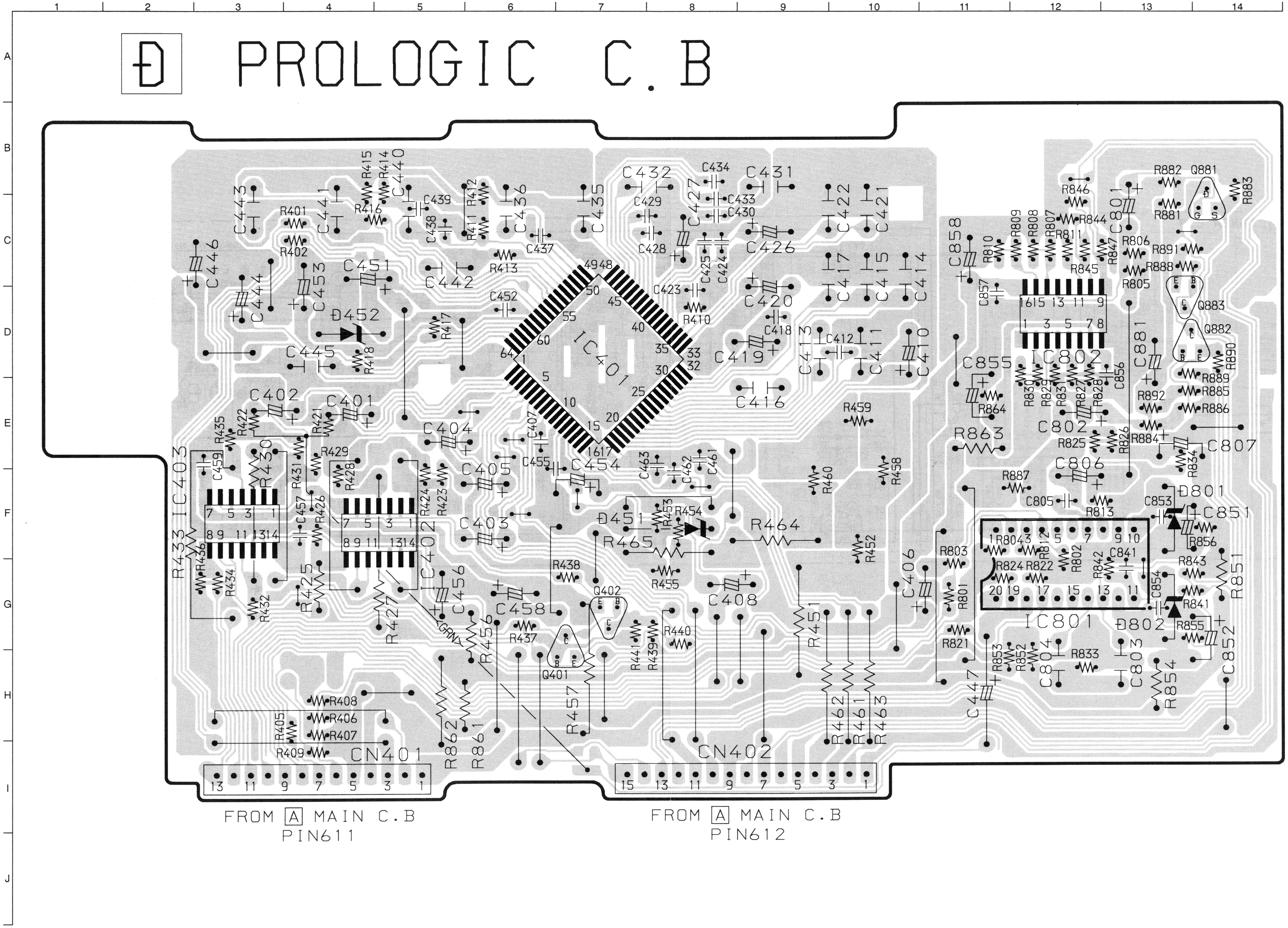
# WIRING – 4 (TUNER : MX-NAVH1000 <HE>)


C TUNER C.B
TO A MAIN C.B CN907
W907
1 3 5 7 9 11
CN601
IC721
IC771
TP1 (VT)
TP5 (AUTO STOP)
TP6 (LCH)
TP7 (RCH)
TP2 (CLK)
TP3 (DC BAL)
TP4
(DC BALANCE)
FFE801
CF801
CF802
J801
J940
MW LOOP
Q950
TFM75Ω
SW

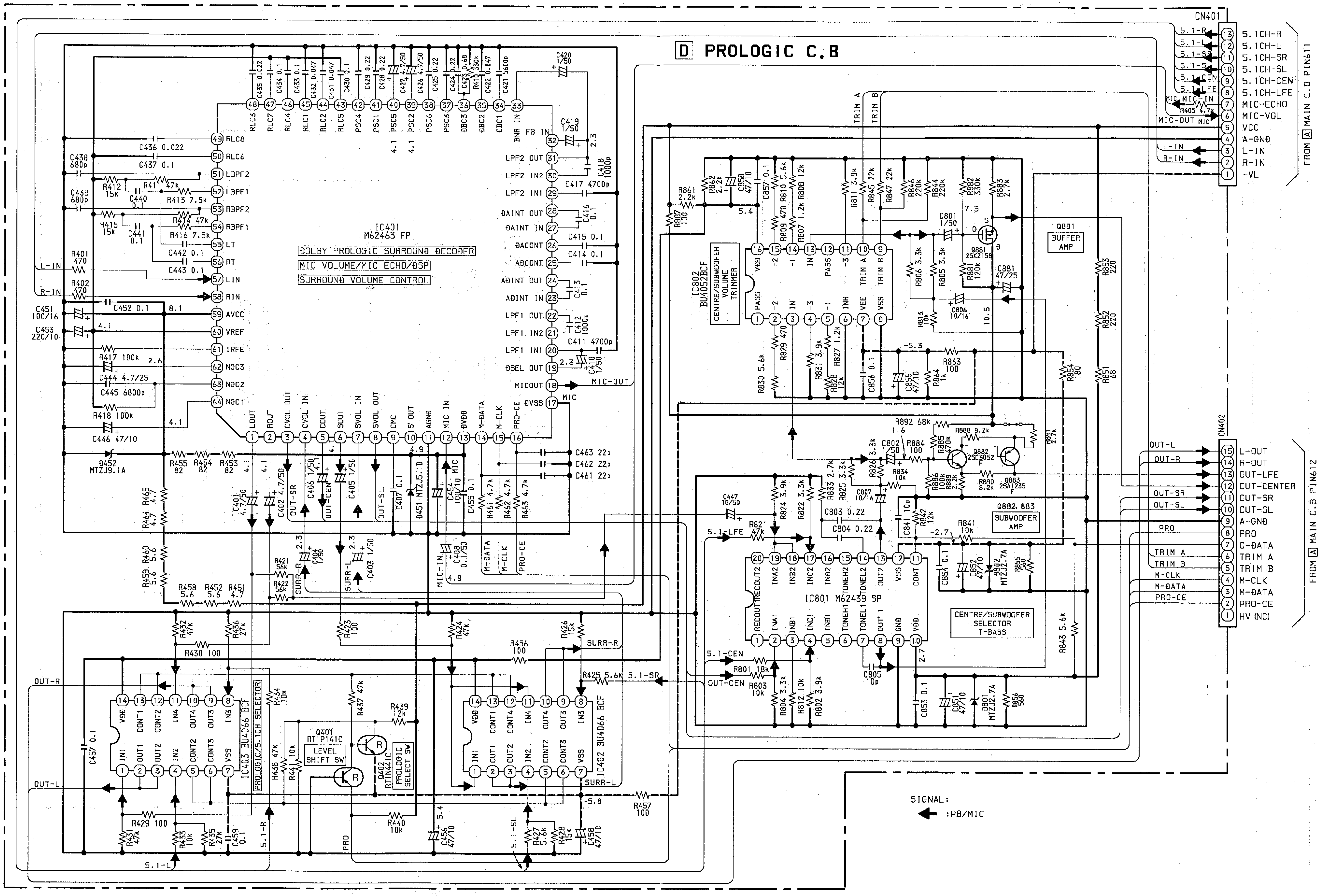
# SCHEMATIC DIAGRAM – 4 (TUNER : MX-NAVH1000 <HE>)


C TUNER C.B
TO A MAIN C.B CN907 (W907)
CN601
TM-BASE
PLL-CE
DATA
M-CLK
TUNE
STEREO
TU-ON
TUNER-L
A-GND
TUNER-R
+VM
TUNE/IFC
IC721 LC72131D
X721 4.5MHz
PLL
IC771 LA1837
DECODER
Q711 2SC4115 SR5
TUNER SW
D773 1SS254
BUFFERS
L771 FM DET-2N (TOK)
DC BALANCE ADJ
IF ADJ
AUTO STOP
L772 CFMT-450A (TOK)
L792 1 POLE MPX (TOK)
L791 1 POLE MPX (TOK)
TP1
TP2
TP3
TP4
TP5
TP6
TP7
RCH
LCH
Q805 2SC2714
FM IF AMP
CF802 SFE10.7MA5-A
CF801 SFE10.7MA5-A
Q806, 807 FM BAND SW
Q806 RT1P144C
Q807 RT1P144C
L832 2.2μH
FFE801 FM FRONTEND PACK 8ZA-1 YFEUNM
J801
FM 75Ω
SW
J940
MW LOOP
Q943, 944, 951 MW BAND SW
Q951 RT1P141C
Q943 2SA1235
Q944 2SC3052
L981 (3/3) AM PACK3N
L981 (2/3) AM PACK3N
L981 (1/3) AM PACK3N
Q947 2SK360E
AM RF AMP
L981 (3/3) MW VT ADJ
Q945 2SC3052
MW BAND SW
L981 (1/3), TC941 MW TRACKING ADJ
Q941 RT1P141C
Q942 2SA1235
L942 SW OSC
L942 SW VT ADJ
Q946 CS01306
Q948 CS01306
L941 SW ANT
L941, TC943 SW TRACKING ADJ
Q950 CS01306
Q949 2SC3052
AGC SW
D941 1SS254
Q941, 942 SW BAND SW
Q946, 948 SW BAND SW
SIGNAL:
:FM
:AM

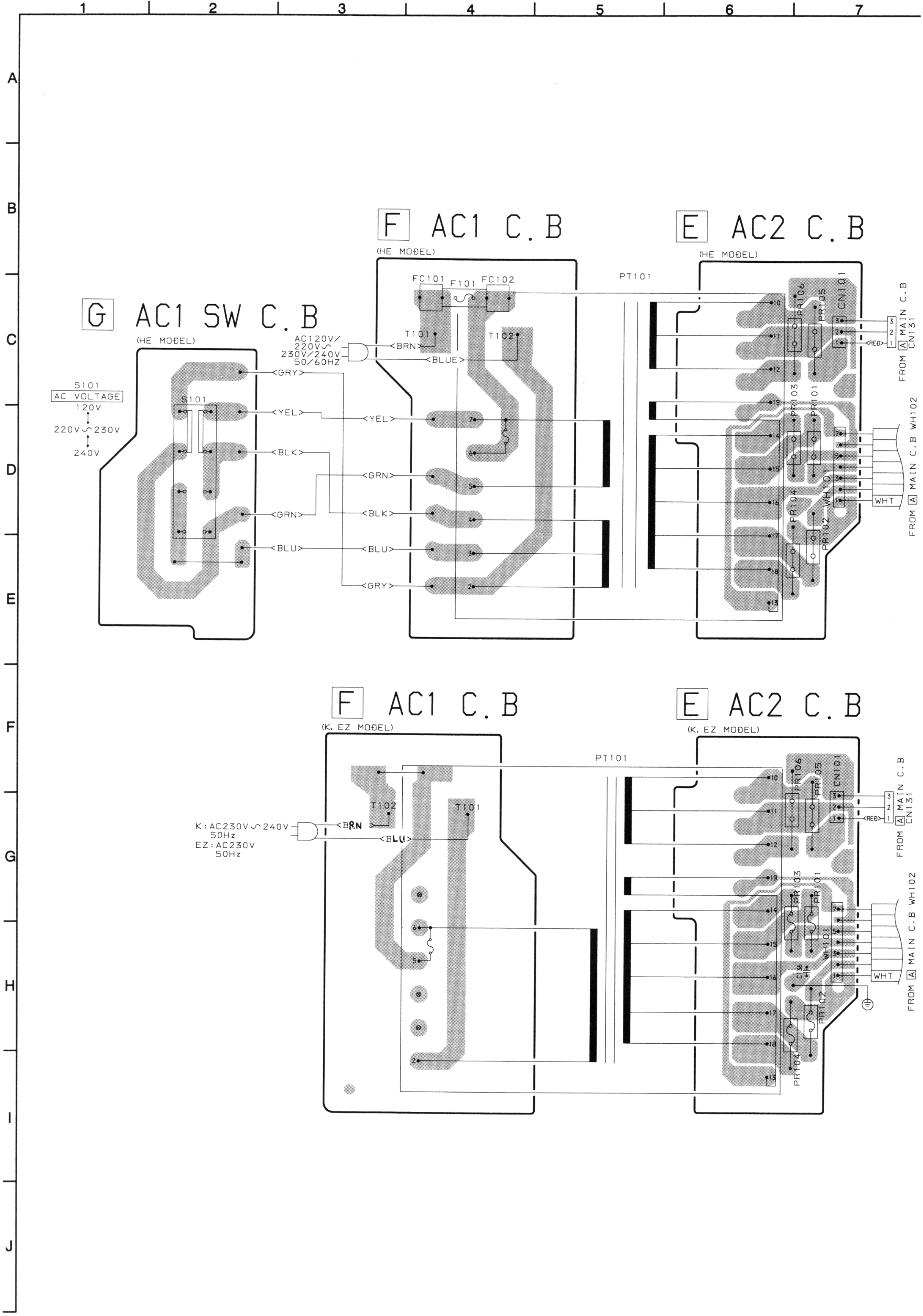
# Ð PROLOGIC C.B


1 2 3 4 5 6 7 8 9 10 11 12 13 14
A B C D E F G H I J
IC401
IC402
IC403
IC801
IC802
Q401
Q402
Q881
Q882
Q883
D451
D452
D801
D802
C401 C402 C403 C404 C405 C406 C407 C408 C410 C411 C412 C413 C414 C415 C416 C417 C418 C419 C420 C421 C422 C423 C424 C425 C426 C427 C428 C429 C430 C431 C432 C433 C434 C435 C436 C437 C438 C439 C440 C441 C442 C443 C444 C445 C446 C447 C451 C452 C453 C454 C455 C456 C457 C458 C459 C461 C462 C463
C801 C802 C803 C804 C805 C806 C807 C841 C851 C852 C853 C854 C855 C856 C857 C858 C881
R401 R402 R405 R406 R407 R408 R409 R410 R411 R412 R413 R414 R415 R416 R417 R418 R421 R422 R423 R424 R425 R426 R427 R428 R429 R430 R431 R432 R433 R434 R435 R436 R437 R438 R439 R440 R441 R451 R452 R453 R454 R455 R456 R457 R458 R459 R460 R461 R462 R463 R464 R465
R801 R802 R803 R804 R805 R806 R807 R808 R809 R810 R811 R812 R813 R821 R822 R824 R825 R826 R827 R828 R829 R830 R831 R833 R834 R841 R842 R843 R844 R845 R846 R847 R851 R852 R853 R854 R855 R856 R861 R862 R863 R864 R881 R882 R883 R884 R885 R886 R887 R888 R889 R890 R891 R892
GRN
CN401
13 11 9 7 5 3 1
CN402
15 13 11 9 7 5 3 1
FROM A MAIN C.B
PIN611
FROM A MAIN C.B
PIN612

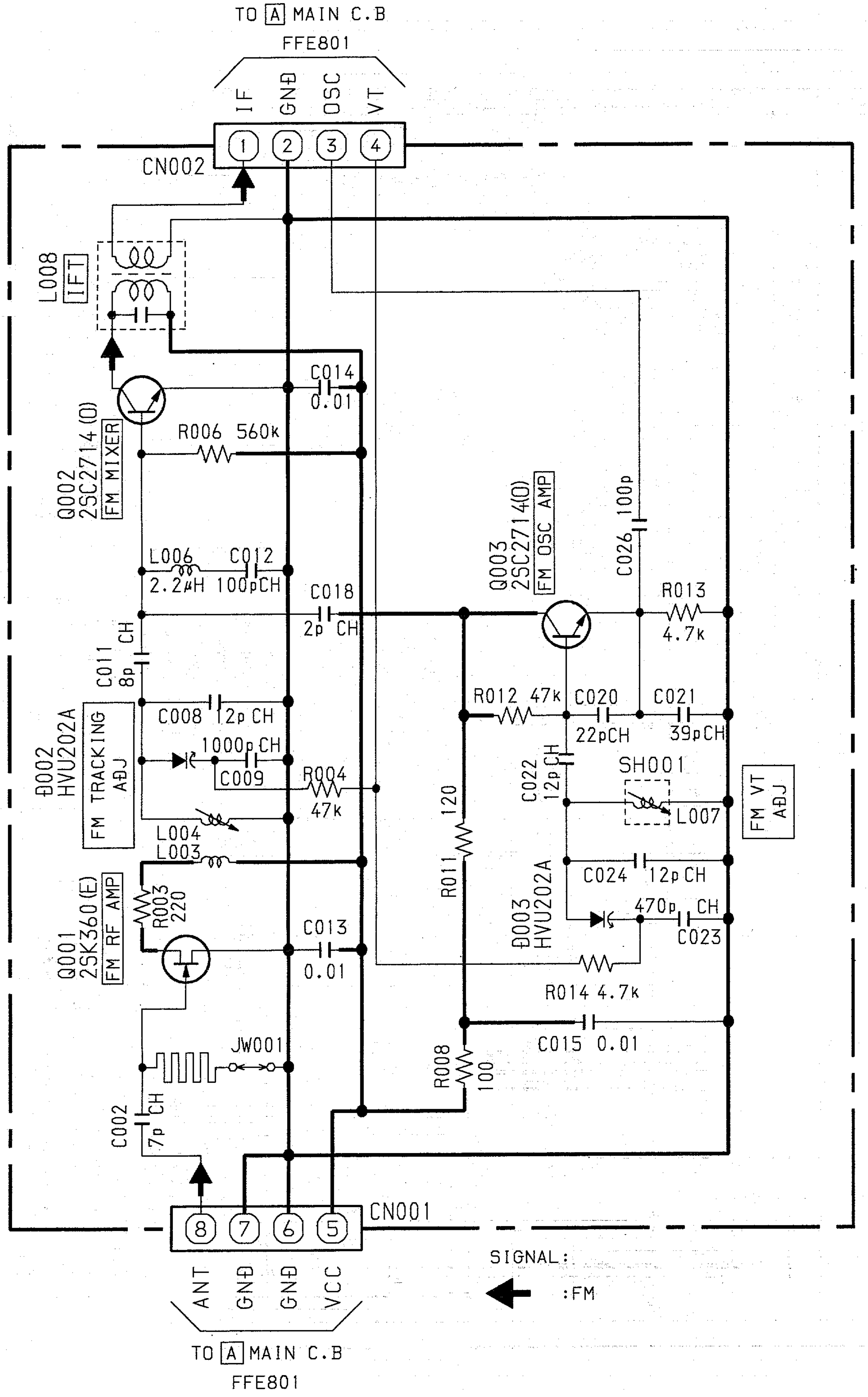
# SCHEMATIC DIAGRAM – 5 (PROLOGIC : MX–NAVH1000)


D PROLOGIC C.B
IC401
M62463 FP
DOLBY PROLOGIC SURROUND DECODER
MIC VOLUME/MIC ECHO/DSP
SURROUND VOLUME CONTROL
IC802
BU4052BCF
CENTRE/SUBWOOFER VOLUME TRIMMER
IC801 M62439 SP
CENTRE/SUBWOOFER SELECTOR T-BASS
Q881
BUFFER AMP
Q882, 883
SUBWOOFER AMP
IC403 BU4066 BCF
PROLOGIC/5.1CH SELECTOR
IC402 BU4066 BCF
Q401
RT1P141C
LEVEL SHIFT SW
Q402
RT1N441C
PROLOGIC SELECT SW
CN401
5.1CH-R
5.1CH-L
5.1CH-SR
5.1CH-SL
5.1CH-CEN
5.1CH-LFE
MIC-ECHO
MIC-VOL
VCC
A-GND
L-IN
R-IN
-VL
FROM A MAIN C.B PIN611
CN402
L-OUT
R-OUT
OUT-LFE
OUT-CENTER
OUT-SR
OUT-SL
A-GND
PRO
D-DATA
TRIM A
TRIM B
M-CLK
M-DATA
PRO-CE
HV (NC)
FROM A MAIN C.B PIN612
MIC-OUT
MIC
SURR-R
SURR-L
5.1-SR
5.1-SL
5.1-L
5.1-R
5.1-CEN
5.1-LFE
OUT-CEN
OUT-R
OUT-L
D452
MTZJ9.1A
D451 MTZJ5.1B
D801 MTZJ2.7A
D802 MTZJ2.7A
Q881 2SK2158
Q882 2SC3052
Q883 2SA1235
SIGNAL:
:PB/MIC

# WIRING – 6 (AC1 / AC2 : MX-NAVH1000)


1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
I
J
F AC1 C.B
(HE MODEL)
E AC2 C.B
(HE MODEL)
G AC1 SW C.B
(HE MODEL)
S101
AC VOLTAGE
120V
220V∽230V
240V
S101
FC101
F101
FC102
T101
T102
PT101
AC120V/
220V∽
230V/240V
50/60HZ
<BRN>
<BLUE>
<GRY>
<YEL>
<BLK>
<GRN>
<BLU>
PR106
PR105
CN101
PR103
PR101
PR104
PR102
WH101
<RED>
WHT
FROM A MAIN C.B CN131
FROM A MAIN C.B WH102
F AC1 C.B
(K. EZ MODEL)
E AC2 C.B
(K. EZ MODEL)
K:AC230V∽240V
50Hz
EZ:AC230V
50Hz
<BRN>
<BLU>
C136

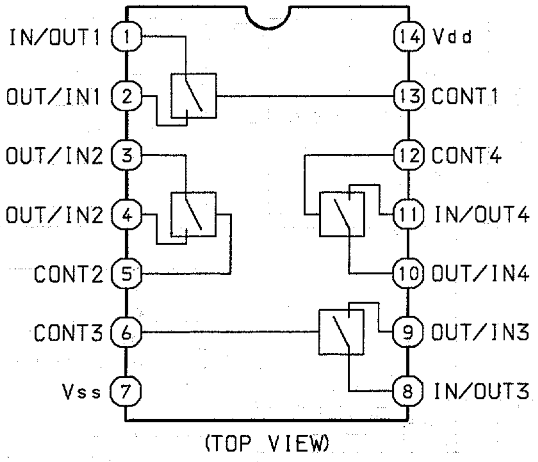
# SCHEMATIC DIAGRAM – 6 (TUNER FRONT END : MX–NAVH1000 <HE>)



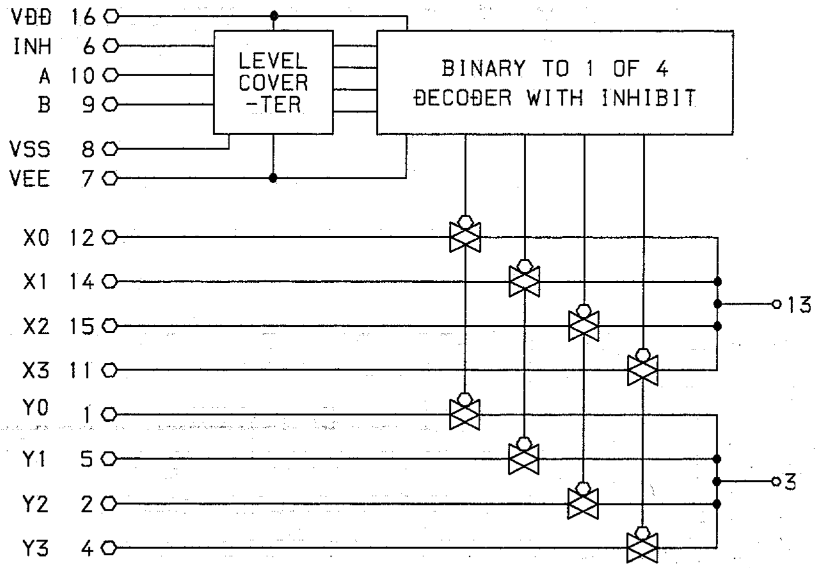
TO A MAIN C.B
FFE801
IF
GND
OSC
VT
1
2
3
4
CN002
L008
IFT
Q002
2SC2714 (O)
FM MIXER
C014
0.01
R006 560k
L006
2.2μH
C012
100pCH
C018
2p CH
C011
8p CH
C008 12p CH
1000p CH
C009
R004
47k
D002
HVU202A
FM TRACKING ADJ
L004
L003
Q001
2SK360 (E)
FM RF AMP
R003
220
C013
0.01
JW001
C002
7p CH
Q003
2SC2714(O)
FM OSC AMP
C026 100p
R013
4.7k
R012 47k
C020
22pCH
C021
39pCH
C022
12p CH
SH001
L007
FM VT ADJ
120
R011
C024
12p CH
D003
HVU202A
470p CH
C023
R014 4.7k
C015 0.01
R008
100
CN001
8
7
6
5
ANT
GND
GND
VCC
TO A MAIN C.B
FFE801
SIGNAL:
:FM

# IC BLOCK DIAGRAM (MX-NAVH1000)

## IC, BU4066BCF


IN/OUT1 1
OUT/IN1 2
OUT/IN2 3
OUT/IN2 4
CONT2 5
CONT3 6
Vss 7
14 Vdd
13 CONT1
12 CONT4
11 IN/OUT4
10 OUT/IN4
9 OUT/IN3
8 IN/OUT3
(TOP VIEW)

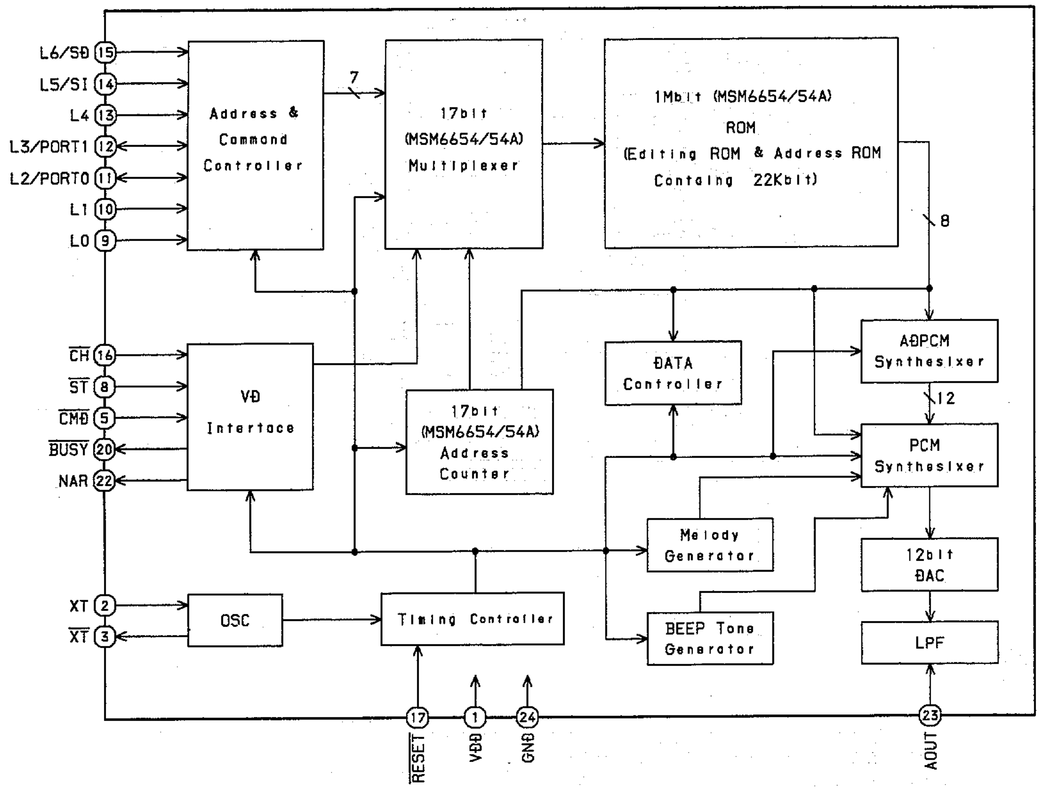
## IC, BU4052BCF


VDD 16
INH 6
A 10
B 9
VSS 8
VEE 7
LEVEL COVER -TER
BINARY TO 1 OF 4 DECODER WITH INHIBIT
X0 12
X1 14
X2 15
X3 11
Y0 1
Y1 5
Y2 2
Y3 4
13
3

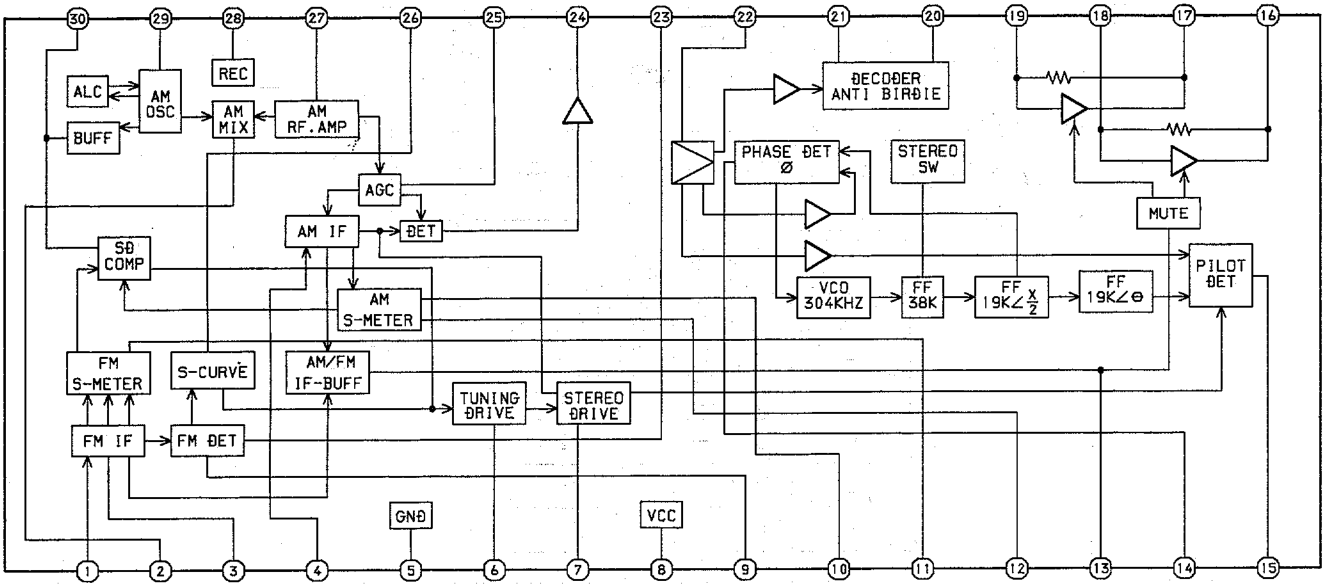
TRUTH TABLE

| INHIBIT | A | B | ON SWITCH |
|---|---|---|---|
| L | L | L | X0 Y0 |
| L | H | L | X1 Y1 |
| L | L | H | X2 Y2 |
| L | H | H | X3 Y3 |
| H | X | X | NONE |

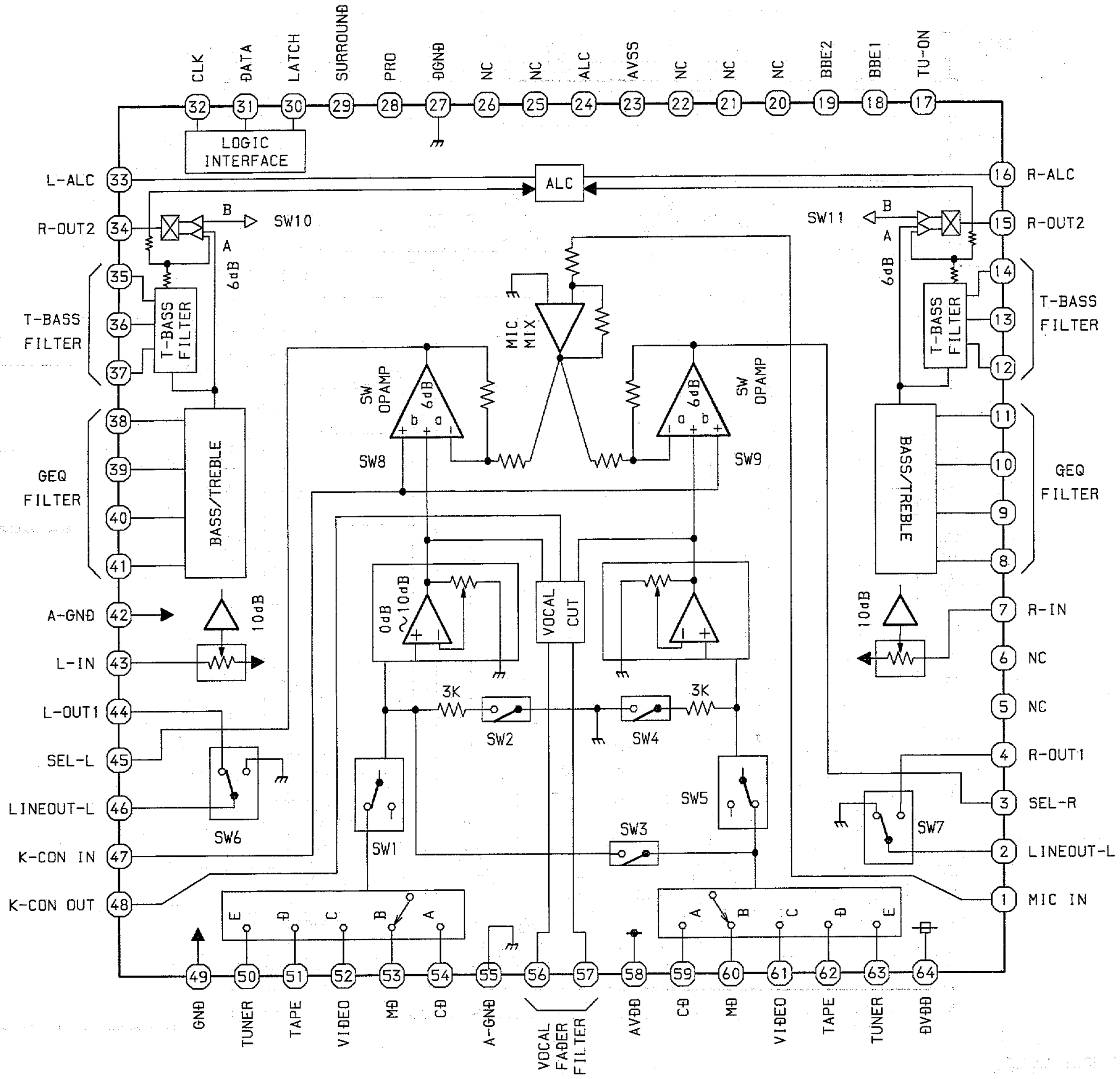
## IC, MSM6654A-521GS-KRI


L6/SD 15
L5/SI 14
L4 13
L3/PORT1 12
L2/PORT0 11
L1 10
L0 9
Address & Command Controller
7
17bit (MSM6654/54A) Multiplexer
1Mbit (MSM6654/54A) ROM (Editing ROM & Address ROM Containg 22Kbit)
8
CH 16
ST 8
CMD 5
BUSY 20
NAR 22
VD Interface
17bit (MSM6654/54A) Address Counter
DATA Controller
ADPCM Synthesixer
12
PCM Synthesixer
Melody Generator
12bit DAC
LPF
XT 2
XT 3
OSC
Timing Controller
BEEP Tone Generator
17 RESET
1 VDD
24 GND
23 AOUT

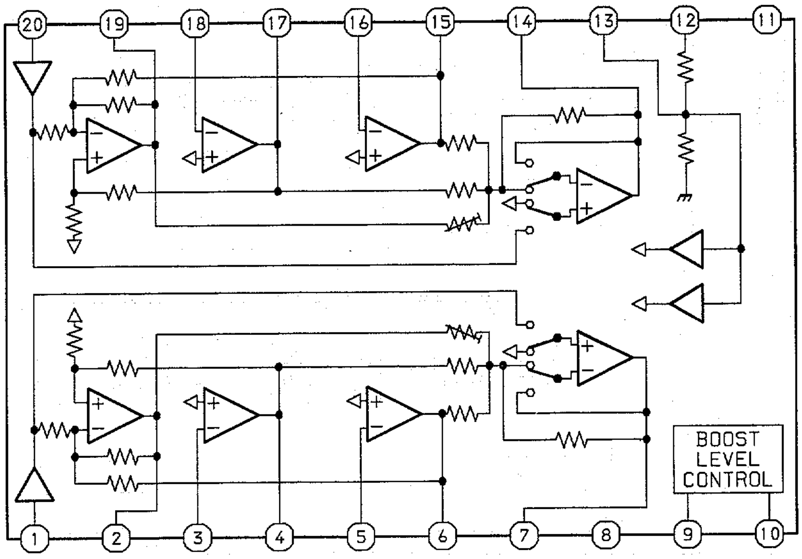
## IC, LA1837


30
29
28
27
26
25
24
23
22
21
20
19
18
17
16
ALC
AM OSC
BUFF
REC
AM MIX
AM RF.AMP
AGC
AM IF
DET
SD COMP
AM S-METER
FM S-METER
S-CURVE
AM/FM IF-BUFF
TUNING DRIVE
STEREO DRIVE
FM IF
FM DET
GND
VCC
DECODER ANTI BIRDIE
PHASE DET Ø
STEREO SW
MUTE
VCO 304KHZ
FF 38K
FF 19K∠x/2
FF 19K∠θ
PILOT DET
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15

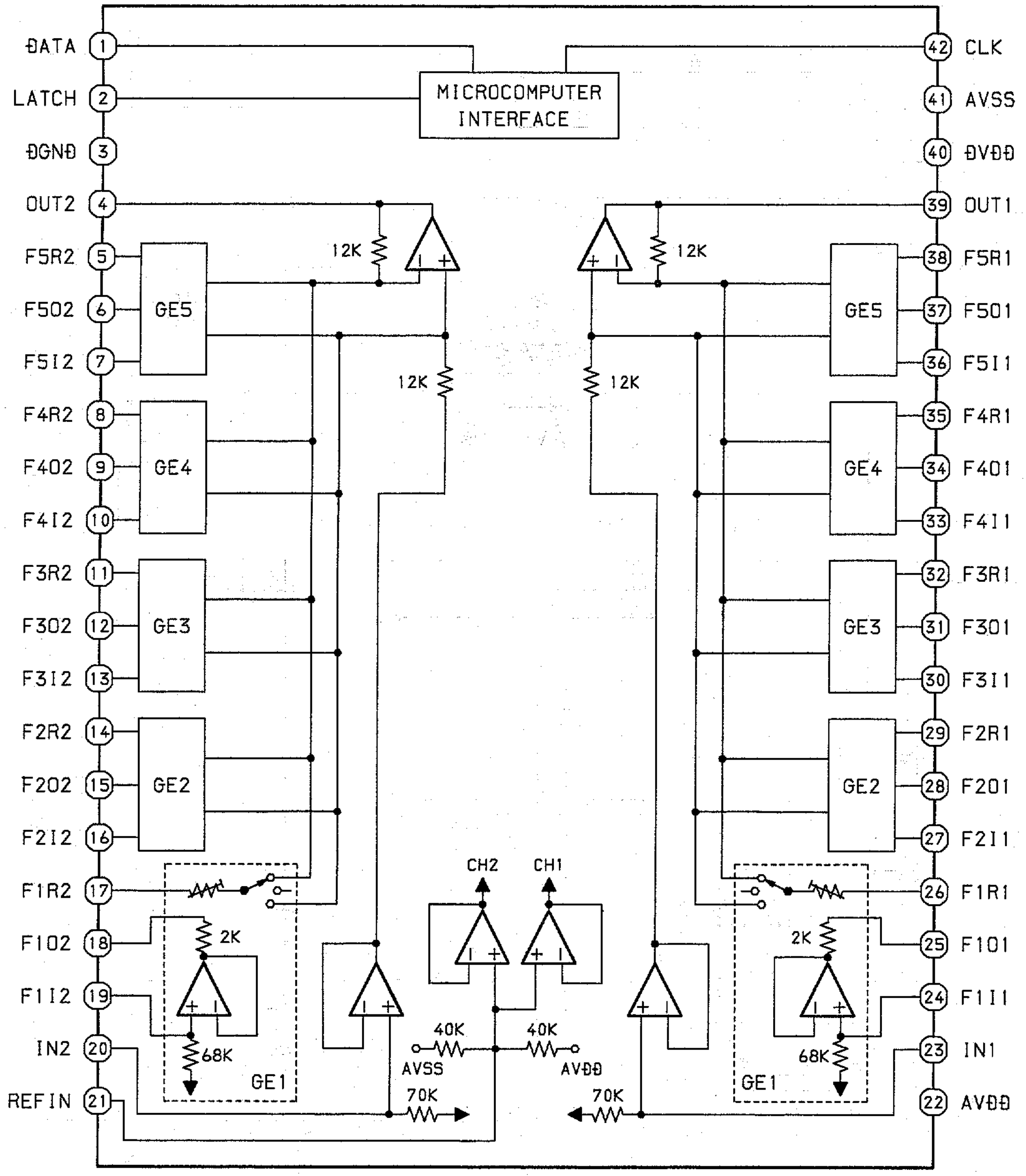
## IC, M62445FP-600D


CLK
DATA
LATCH
SURROUND
PRO
DGND
NC
NC
ALC
AVSS
NC
NC
NC
BBE2
BBE1
TU-ON
32
31
30
29
28
27
26
25
24
23
22
21
20
19
18
17
LOGIC INTERFACE
ALC
L-ALC 33
R-OUT2 34
T-BASS FILTER
35
36
37
GEQ FILTER
38
39
40
41
A-GND 42
L-IN 43
L-OUT1 44
SEL-L 45
LINEOUT-L 46
K-CON IN 47
K-CON OUT 48
16 R-ALC
15 R-OUT2
14
13
12
T-BASS FILTER
11
10
9
8
GEQ FILTER
7 R-IN
6 NC
5 NC
4 R-OUT1
3 SEL-R
2 LINEOUT-L
1 MIC IN
B
A
SW10
SW11
6dB
T-BASS FILTER
BASS/TREBLE
MIC MIX
SW OPAMP
6dB
b
a
SW8
SW9
0dB ~10dB
VOCAL CUT
10dB
3K
SW2
SW4
SW3
SW1
SW5
SW6
SW7
E
D
C
B
A
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
GND
TUNER
TAPE
VIDEO
MD
CD
A-GND
VOCAL FADER FILTER
AVDD
CD
MD
VIDEO
TAPE
TUNER
DVDD

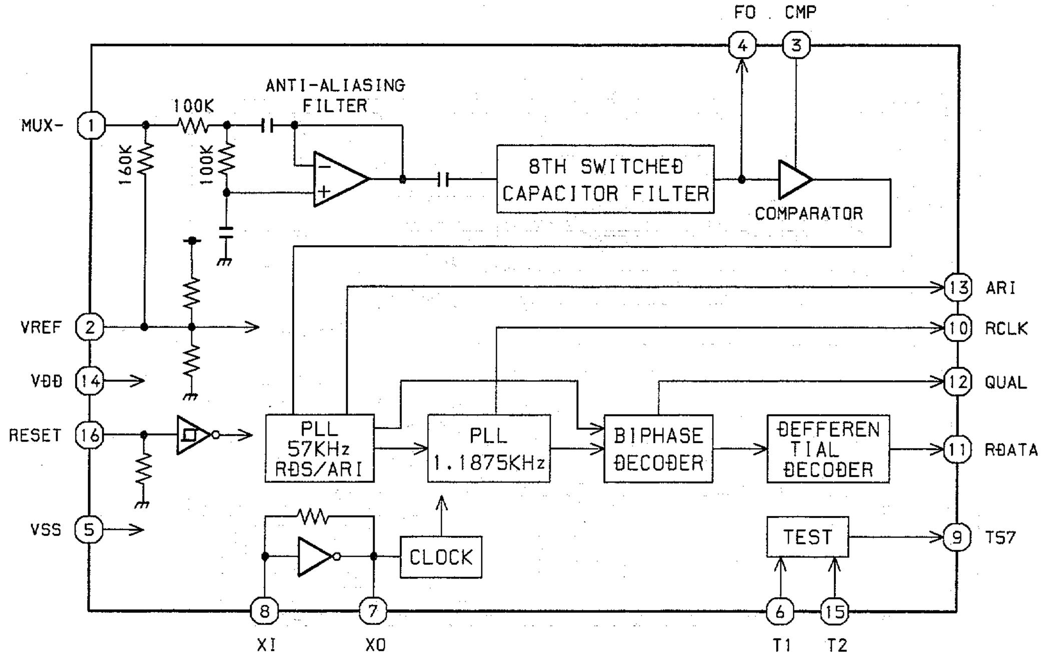
## IC, NJM2152M


20
19
18
17
16
15
14
13
12
11
BOOST LEVEL CONTROL
1
2
3
4
5
6
7
8
9
10

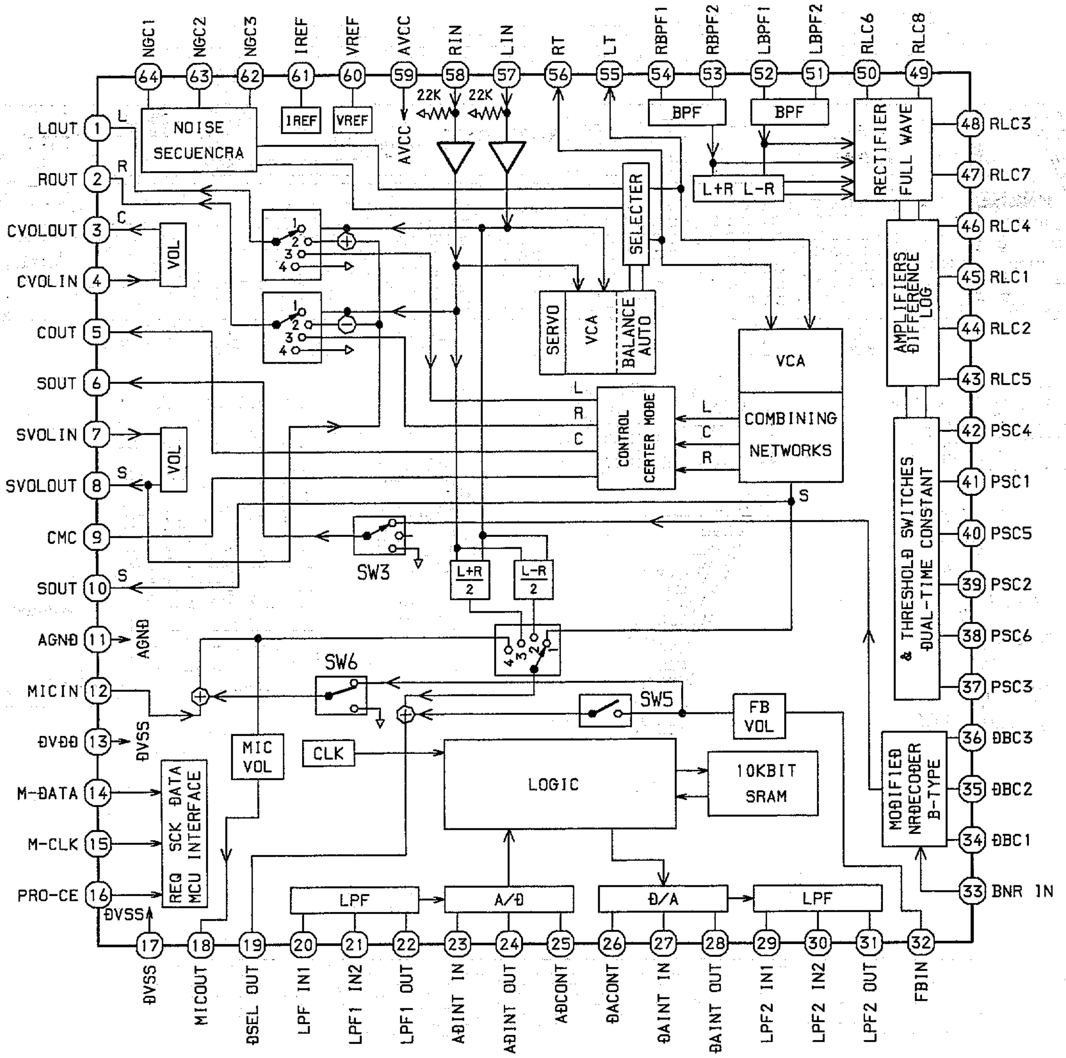
## IC, M62449FP


DATA 1
LATCH 2
DGND 3
OUT2 4
F5R2 5
F502 6
F5I2 7
F4R2 8
F402 9
F4I2 10
F3R2 11
F302 12
F3I2 13
F2R2 14
F202 15
F2I2 16
F1R2 17
F102 18
F1I2 19
IN2 20
REFIN 21
42 CLK
41 AVSS
40 DVDD
39 OUT1
38 F5R1
37 F501
36 F5I1
35 F4R1
34 F401
33 F4I1
32 F3R1
31 F301
30 F3I1
29 F2R1
28 F201
27 F2I1
26 F1R1
25 F101
24 F1I1
23 IN1
22 AVDD
MICROCOMPUTER INTERFACE
GE5
GE4
GE3
GE2
GE1
12K
2K
68K
CH2
CH1
40K
70K
AVSS
AVDD

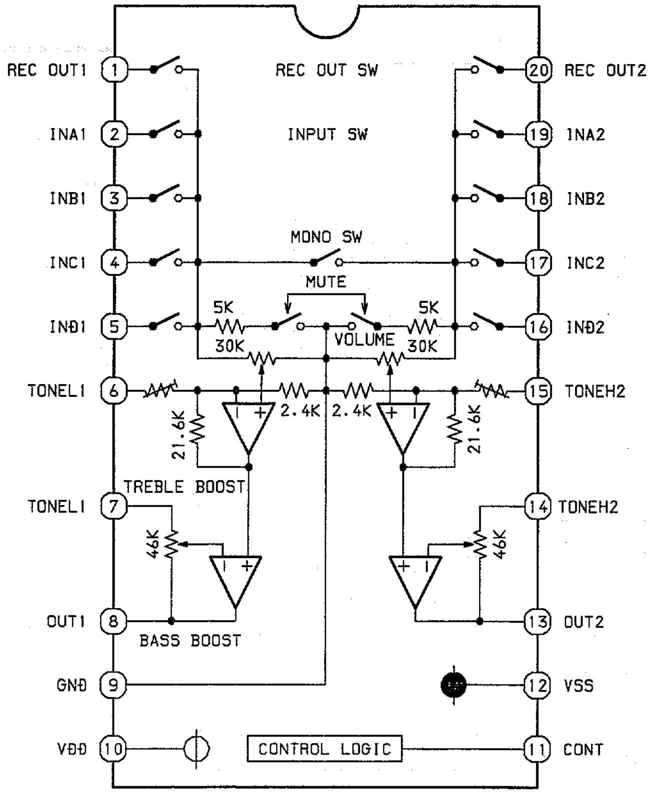
## IC, BU1920FS


FO
CMP
4
3
MUX- 1
VREF 2
VDD 14
RESET 16
VSS 5
100K
160K
ANTI-ALIASING FILTER
8TH SWITCHED CAPACITOR FILTER
COMPARATOR
PLL 57KHz RDS/ARI
PLL 1.1875KHz
BIPHASE DECODER
DEFFERENTIAL DECODER
CLOCK
TEST
13 ARI
10 RCLK
12 QUAL
11 RDATA
9 TS7
8 XI
7 XO
6 T1
15 T2

## IC, M62463FP

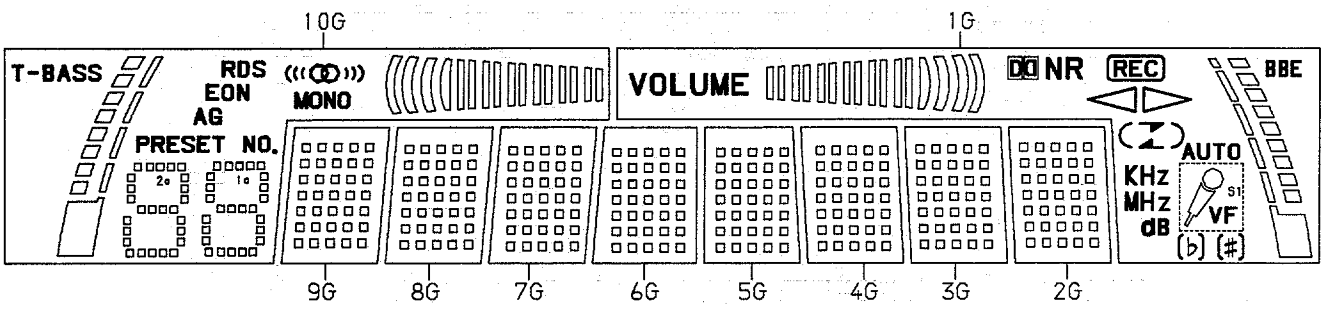

NGC1 64
NGC2 63
NGC3 62
IREF 61
VREF 60
AVCC 59
RIN 58
LIN 57
RT 56
LT 55
RBPF1 54
RBPF2 53
LBPF1 52
LBPF2 51
RLC6 50
RLC8 49
LOUT 1
ROUT 2
CVOLOUT 3
CVOLIN 4
COUT 5
SOUT 6
SVOLIN 7
SVOLOUT 8
CMC 9
SOUT 10
AGND 11
MICIN 12
DVDD 13
M-DATA 14
M-CLK 15
PRO-CE 16
DVSS 17
MICOUT 18
DSEL OUT 19
LPF IN1 20
LPF1 IN2 21
LPF1 OUT 22
ADINT IN 23
ADINT OUT 24
ADCONT 25
DACONT 26
DAINT IN 27
DAINT OUT 28
LPF2 IN1 29
LPF2 IN2 30
LPF2 OUT 31
FBIN 32
RLC3 48
RLC7 47
RLC4 46
RLC1 45
RLC2 44
RLC5 43
PSC4 42
PSC1 41
PSC5 40
PSC2 39
PSC6 38
PSC3 37
DBC3 36
DBC2 35
DBC1 34
BNR IN 33
NOISE SECUENCRA
IREF
VREF
AVCC
22K
22K
BPF
BPF
L+R L-R
RECTIFIER FULL WAVE
SELECTER
LOG DIFFERENCE AMPLIFIERS
SERVO
VCA
AUTO BALANCE
VCA
COMBINING NETWORKS
CONTROL
CENTER MODE
L
R
C
S
VOL
VOL
1 2 3 4
SW3
L+R/2
L-R/2
DUAL-TIME CONSTANT & THRESHOLD SWITCHES
SW6
SW5
FB VOL
MIC VOL
CLK
LOGIC
10KBIT SRAM
MCU INTERFACE REQ SCK DATA
B-TYPE NRDECODER MODIFIED
AGND
DVSS
DVSS
LPF
A/D
D/A
LPF

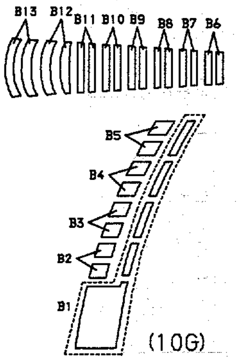
## IC, M62439SP

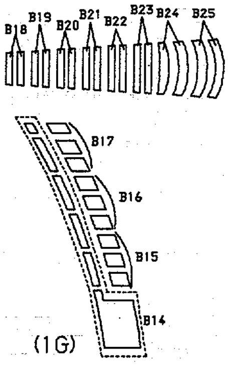

REC OUT1 1
INA1 2
INB1 3
INC1 4
IND1 5
TONEL1 6
TONEL1 7
OUT1 8
GND 9
VDD 10
CONT 11
VSS 12
OUT2 13
TONEH2 14
TONEH2 15
IND2 16
INC2 17
INB2 18
INA2 19
REC OUT2 20
REC OUT SW
INPUT SW
MONO SW
MUTE
5K
5K
30K
30K
VOLUME
2.4K
2.4K
21.6K
21.6K
TREBLE BOOST
46K
46K
BASS BOOST
CONTROL LOGIC

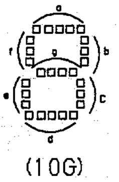
# FL (10-BT-208GK) GRID ASSIGNMENT & ANODE CONNECTION (MX-NAVH1000)

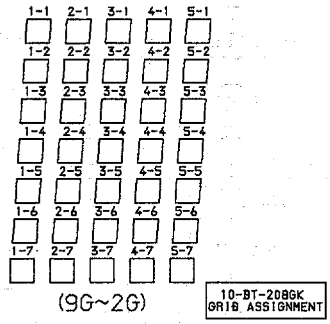
## GRID ASSIGNMENT


10G
1G
T-BASS
RDS
EON
AG
MONO
PRESET NO.
2a
1a
VOLUME
NR
REC
BBE
AUTO
KHz
MHz
dB
S1
VF
9G
8G
7G
6G
5G
4G
3G
2G


B13
B12
B11
B10
B9
B8
B7
B6
B5
B4
B3
B2
B1
(10G)


B18
B19
B20
B21
B22
B23
B24
B25
B17
B16
B15
B14
(1G)


a
b
c
d
e
f
g
(10G)


1-1
2-1
3-1
4-1
5-1
1-2
2-2
3-2
4-2
5-2
1-3
2-3
3-3
4-3
5-3
1-4
2-4
3-4
4-4
5-4
1-5
2-5
3-5
4-5
5-5
1-6
2-6
3-6
4-6
5-6
1-7
2-7
3-7
4-7
5-7
(9G~2G)
10-BT-208GK
GRID ASSIGNMENT

## ANODE CONNECTION

| | 10G | 9G~2G | 1G |
|---|---|---|---|
| P1 | (((ꝏ))) | 1-1 | VOLUME |
| P2 | B6 | 2-1 | B18 |
| P3 | B7 | 3-1 | B19 |
| P4 | B8 | 4-1 | B20 |
| P5 | B9 | 5-1 | B21 |
| P6 | B10 | 1-2 | B22 |
| P7 | B11 | 2-2 | B23 |
| P8 | B12 | 3-2 | B24 |
| P9 | B13 | 4-2 | B25 |
| P10 | MONO | 5-2 | DᗡNR |
| P11 | RDS | 1-3 | REC |
| P12 | EON | 2-3 | ◁ |
| P13 | AG | 3-3 | ▷ |
| P14 | ○ | 4-3 | ( |
| P15 | PRESET No. | 5-3 | ◢◤ |
| P16 | 2a | 1-4 | ) |
| P17 | 2f | 2-4 | KHz |
| P18 | 2b | 3-4 | MHz |
| P19 | 2g | 4-4 | dB |
| P20 | 2e | 5-4 | ( (b) ) |
| P21 | 2c | 1-5 | ♭ |
| P22 | 2d | 2-5 | S1 |
| P23 | 1a | 3-5 | AUTO |
| P24 | 1f | 4-5 | ♯ |
| P25 | 1b | 5-5 | ( (♯) ) |
| P26 | 1g | 1-6 | B14 |
| P27 | 1e | 2-6 | B17 |
| P28 | 1c | 3-6 | B16 |
| P29 | 1d | 4-6 | B15 |
| P30 | T-BASS | 5-6 | BBE |
| P31 | B1 | 1-7 | - |
| P32 | B2 | 2-7 | - |
| P33 | B3 | 3-7 | - |
| P34 | B4 | 4-7 | - |
| P35 | B5 | 5-7 | - |

# IC DESCRIPTION (MX-NAVH1000)

IC, UPD780228GF-026-3BA

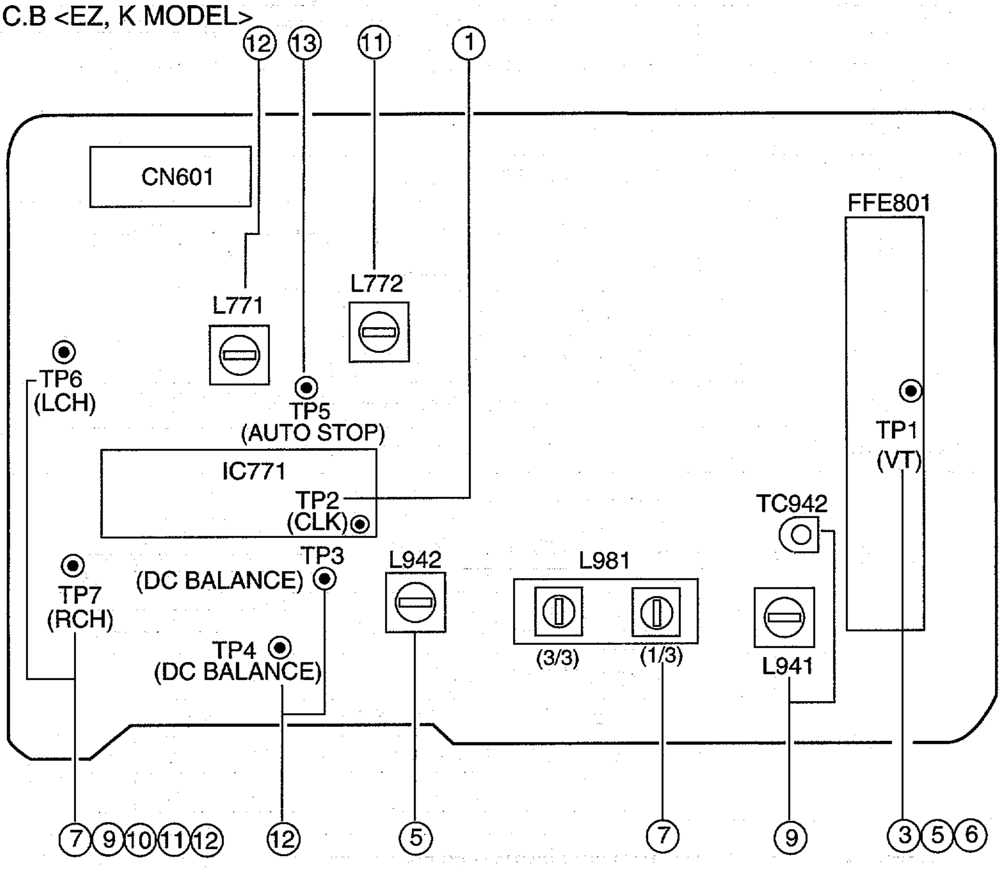
| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1 | K-SCAN | O | Output scan for segment input (Active "H"). |
| 2 | GAME NAR | I | Input register signal to IC, MSM6654A. |
| 3 | GAME $\overline{\text{CH}}$ | O | Channel control output to IC, MSM6654A (H:1, L:2). |
| 4 | GAME $\overline{\text{ST}}$ | O | Strobe output to IC, MSM6654A. |
| 5 | PLL CE | O | PLL IC chip enable output. |
| 6 | O-M/CLK | O | Main clock output. |
| 7 | O-M/DATA | O | Main data output. |
| 8 | O-M/STB | O | Main strobe output. |
| 9 | I/O-$\overline{\text{SERIAL}}$ | I/O | Communication port for GEQ, CD and DECK. |
| 10 | O-MUTE | O | System mute (ON when "H"). |
| 11 | O-$\overline{\text{POWER}}$ | O | System power supply (ON when "L"). |
| 12 | DIMER 3 | O | Dimmer control ("L" when 3). |
| 13 | NC | – | Not connected. |
| 14 | NC | – | Not connected. |
| 15 | NC | – | Not connected. |
| 16 | NC | – | Not connected. |
| 17 | IC | – | Connected to GND. |
| 18 | VSS | – | GND. |
| 19 | VDD | – | Power supply terminal. |
| 20 | LED-MD | O | MD LED output. |
| 21 | TM BASE | I | Time base input. |
| 22 | $\overline{\text{TUNE}}$/$\overline{\text{IFC}}$ | I | Tuning detection input. |
| 23 | $\overline{\text{STEREO}}$ | I | Stereo detection input. |
| 24 | PRO CE | O | Output chip enable to IC, M62463FP (PROLOGIC model) and IC, M65849BFP (without PROLOGIC model). |
| 25 | TRIM A | O | Output 1dB trim data to IC, BU4052BCF . |
| 26 | TRIM B | | |
| 27 | LED CD | O | CD LED output. |
| 28 | NC | – | Not connected. |
| 29 | RDS-CLK | I | RDS clock input. |
| 30 | $\overline{\text{RESET}}$ | I | Reset input. |
| 31 | O-DATA1 | O | Control data output to IC, M62439FP. |
| 32 | GEQ-REQ | O | Latch output to IC, M62449FP. |
| 33 | COUNTER | I | Tape counter input. |
| 34 | I-$\overline{\text{RMC}}$ | I | Remote controller input (Active "L"). |
| 35 | I-$\overline{\text{SURR-OFF}}$ | I | Stop surround function when using head phone. |
| 36 | O-SHIFT | O | Output for oscillated frequency shift. |
| 37 | VDD | – | Power supply terminal. |
| 38 | X2 | – | 4.19MHz oscillator circuit. |
| 39 | X1 | | |
| 40 | VSS | – | GND |
| 41 | AVDD | – | Power supply terminal. |
| 42 | $\overline{\text{HOLD}}$ | I | Power failure / over current detected input. 'H' : Normal operation. 'L' : Stop clock and main memory. |

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 43 | I-RDS SIG | I | RDS signal input. |
| 44 | I-MIC | I | MIC input level detection. |
| 45 | I-KEY1 | I | KEY1 input. |
| 46 | I-KEY2 | I | KEY2 input. |
| 47 | I-RE VOL A | I | Rotary encoder A (VOL) input. |
| 48 | I-RE VOL B | I | Rotary encoder B (VOL) input. |
| 49 | I-RDS DATA | I | RDS data input. |
| 50 | AVSS | – | GND. |
| 51 | LED-TAPE | O | Tape LED output. |
| 52 | LED-TUNER | O | Tuner LED output. |
| 53 | LED-VIDEO | O | Video LED output. |
| 54~58 | P1~P5 | O | FL segment output. |
| 59 | P6/SEL3 | I/O | FL segment output / SEL3 input. |
| 60 | P7/SEL2 | I/O | FL segment output / SEL2 input. |
| 61 | P8/SEL1 | I/O | FL segment output / SEL1 input. |
| 62 | P9/PRO | I/O | FL segment output / PROLOGIC input. |
| 63 | P10/AC-3 | I/O | FL segment output / AC-3 input. |
| 64 | P11/V-CD | I/O | FL segment output / V-CD input. |
| 65~78 | P12~P25 | O | FL segment output. |
| 79 | VDD | – | Power supply terminal. |
| 80 | -VFL | – | Power FL display negative supply terminal. |
| 81~90 | P26~P35 | O | FL segment output. |
| 91~100 | G10~G1 | O | FL grid output. |

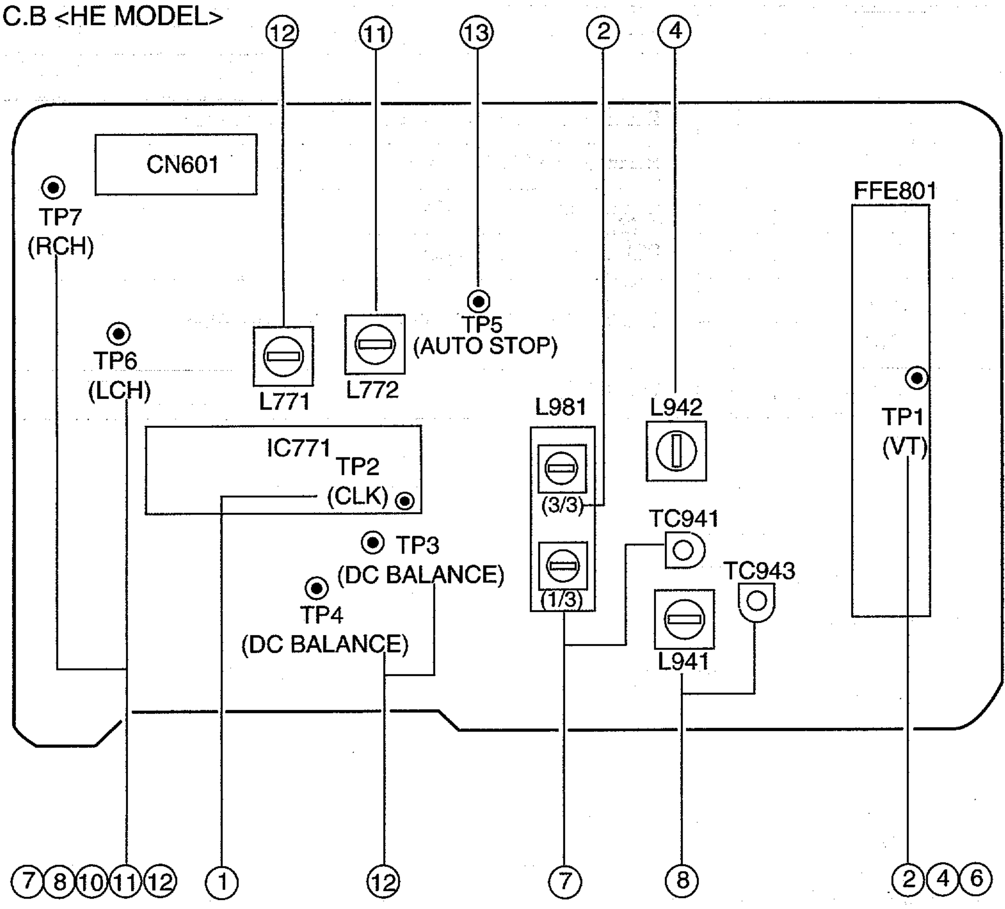
## IC, LC72131

<table>
<tr><th>Pin No.</th><th>Pin Name</th><th>I/O</th><th>Description</th></tr>
<tr><td>1</td><td>XIN</td><td rowspan="2">I/O</td><td rowspan="2">A crystal oscillator (7.2MHz) is connected between these pins.</td></tr>
<tr><td>22</td><td>XOUT</td></tr>
<tr><td>2</td><td>NC</td><td>–</td><td>Not used.</td></tr>
<tr><td>3</td><td>CE</td><td>I</td><td>To enable the IC. Active "H".</td></tr>
<tr><td>4</td><td>DI</td><td>I</td><td>Digital data input from CPU when relevant key is operated.<br>Active "H".</td></tr>
<tr><td>5</td><td>CL</td><td>I</td><td>To clock in the data DI.</td></tr>
<tr><td>6</td><td>DO</td><td>O</td><td>Digital data output to CPU.</td></tr>
<tr><td>7</td><td>T-BASE</td><td>O</td><td>Outputs a reference clock signal (8Hz) for the clock.</td></tr>
<tr><td>8</td><td>$\overline{\text{MONO}}$ / BEAT</td><td>O</td><td>Outputs "H" when BEAT is switched.</td></tr>
<tr><td>9</td><td>$\overline{\text{FM}}$ / $\overline{\text{SW}}$</td><td>O</td><td>Outputs "L" or "H" as follows:
<table>
<tr><td colspan="2">2 BAND</td><td colspan="3">3 BAND</td><td colspan="3">3 BAND</td></tr>
<tr><td>AM</td><td>FM</td><td>LW</td><td>MW</td><td>FM</td><td>MW</td><td>SW</td><td>FM</td></tr>
<tr><td>H</td><td>L</td><td>H</td><td>H</td><td>L</td><td>H</td><td>L</td><td>L</td></tr>
</table></td></tr>
<tr><td>10</td><td>$\overline{\text{MW}}$/SW</td><td>O</td><td>Outputs "L" or "H" as follows:
<table>
<tr><td colspan="2">2 BAND</td><td colspan="3">3 BAND</td><td colspan="3">3 BAND</td></tr>
<tr><td>AM</td><td>FM</td><td>LW</td><td>MW</td><td>FM</td><td>MW</td><td>SW</td><td>FM</td></tr>
<tr><td>L</td><td>L</td><td>H</td><td>L</td><td>L</td><td>L</td><td>H</td><td>L</td></tr>
</table></td></tr>
<tr><td>11</td><td>IF-MUTE</td><td>O</td><td>To control internal counter.</td></tr>
<tr><td>12</td><td>IFIN</td><td>I</td><td>General purpose counter input.</td></tr>
<tr><td>13</td><td>$\overline{\text{TUNE}}$</td><td>I</td><td>Receives "L" when station is tuned.</td></tr>
<tr><td>14</td><td>NC</td><td>–</td><td>Not used.</td></tr>
<tr><td>15</td><td>AM IN</td><td>I</td><td>Receives the AM local oscillator frequency signal.</td></tr>
<tr><td>16</td><td>FM IN</td><td>I</td><td>Receives the FM local oscillator frequency signal.</td></tr>
<tr><td>17</td><td>VDD</td><td>–</td><td>Supply power to IC (+5V).</td></tr>
<tr><td>18</td><td>PD</td><td>O</td><td>PLL charge pump output.</td></tr>
<tr><td>19</td><td>AIN</td><td>I</td><td rowspan="2">The MOS transistor for PLL active low pass filter.</td></tr>
<tr><td>20</td><td>AOUT</td><td>O</td></tr>
<tr><td>21</td><td>VSS</td><td>–</td><td>Ground.</td></tr>
</table>

## C TUNER C.B <EZ, K MODEL>


⑫ ⑬ ⑪ ①
CN601
FFE801
L772
L771
TP6 (LCH)
TP5 (AUTO STOP)
TP1 (VT)
IC771
TP2 (CLK)
TC942
TP3 (DC BALANCE)
L942
L981
TP7 (RCH)
(3/3)
(1/3)
L941
TP4 (DC BALANCE)
⑦⑨⑩⑪⑫
⑫
⑤
⑦
⑨
③⑤⑥

## C TUNER C.B <HE MODEL>


⑫ ⑪ ⑬ ② ④
CN601
FFE801
TP7 (RCH)
TP5 (AUTO STOP)
TP6 (LCH)
L771
L772
L981
L942
TP1 (VT)
IC771
TP2 (CLK)
(3/3)
TC941
TP3 (DC BALANCE)
TC943
TP4 (DC BALANCE)
(1/3)
L941
⑦⑧⑩⑪⑫
①
⑫
⑦
⑧
②④⑥

## < TUNER SECTION >

1. Clock frequency Check
Settings : • Test point : TP2
Method : Set to AM 1602kHz and check that the test point is 2052kHz ± 45Hz.

2. MW VT Adjustment <HE>
Settings : • Test point : TP1 (VT)
• Adjustment location : L981 (3/3)
Method : Set to MW 1710kHz and adjust L981 (3/3) so that the test point becomes 7.5V ± 0.05V. Then check that the test point is more than 0.3V (530kHz).

3. MW VT Check <EZ,K>
Settings : • Test point : TP1 (VT)
Method : Set to MW 1602kHz and check that the test point is less than 8.0V and more than 0.6V (531kHz).

4. SW VT Adjustment <HE>
Settings : • Test point : TP1 (VT)
• Adjustment location : L942
Method : Set to SW 17.9MHz and adjust L942 so that the test point becomes 6.0V ± 0.05V. Then check that the test point is more than 0.3V (5.9MHz).

5. LW VT Adjustment <EZ,K>
Settings : • Test point : TP1 (VT)
• Adjustment location : L942
Method : Set to LW 144kHz and adjust L942 so that the test point is 1.3V ± 0.05V. Then check that the test point is less then 8.0V (290kHz).

6. FM VT Check
Settings : • Test point : TP1 (VT)
Method : Set to FM 87.5MHz, 108.0MHz and check that the test point is more than 0.5V (87.5MHz) and less than 8.0V (108.0MHz).

7a. MW Tracking Adjustment <HE>
Settings : • Test point : TP6(Lch), TP7(Rch)
• Adjustment location :
L981 (1/3) .................................... 603kHz
TC941 .......................................... 1404kHz
Method : Set up TC941 to center before adjustment, the level at 603kHz is adjust to maximum by L981 (1/3). Then the level at 1404kHz is adjust to maximum by TC941.

7b. MW Tracking Adjustment <EZ,K>
Settings : • Test point : TP6(Lch), TP7(Rch)
• Adjustment location :
L981(1/3) ....................................... 999kHz
Method : Set to AM 999kHz and adjust L981(1/3)to MAX.

8. SW Tracking Adjustment <HE>
Settings : • Test point : TP6(Lch), TP7(Rch)
• Adjustment location :
L941 ............................................. 5.9MHz
TC943 .......................................... 17.9MHz
Method : Set up TC943 to center before adjustment. The level at 5.9MHz is adjust to maximum by L941. Then the level at 17.9MHz is adjust to maximum by TC943.

9. LW Tracking Adjustment <EZ,K>
Settings : • Test point : TP6(Lch), TP7(Rch)
• Adjustment location :
L941 ....................................................144kHz
TC942 ................................................. 290kHz
Method : Set up TC942 to center before adjustment. The level at 144kHz is adjust to maximum by L941. Then the level at 290kHz is adjust to maximum by TC942.

10. FM Tracking Check
Settings : • Test point : TP6(Lch), TP7(Rch)
Method : Set to FM 98.0MHz and check that the test point is less than 9dB (HE), less than 10dB (EZ,K).

11. AM(MW) IF Adjustment
Settings : • Test point : TP6(Lch), TP7(Rch)
• Adjustment location :
L772 ............................................... 450kHz

12. DC Balance / Mono Distortion Adjustment
Settings : • Test point : TP3, TP4 (DC Balance)
: TP6(Lch), TP7(Rch) (Distortion)
• Adjustment location : L771
• Input level : 54dB
Method : Set to FM 98.0MHz and adjust L771 so that the voltage between TP3 and TP4 becomes 0V ± 0.04V.
Next, check that the distortion is less than 1.3%.

13. Auto Stop Level Check

MW
• Input level : 52dB
• Test point : TP5
Method : Check auto stop at MW 999kHz and the level is 52 +10/-15dB.

FM
• Input level : 25dB
• Test point : TP5
Method : Check auto stop at FM 98.0MHz and the level is 25 dB ± 10 dB.

# PRACTICAL SERVICE FIGURE (MX-NAVH1000)

## <TUNER SECTION>

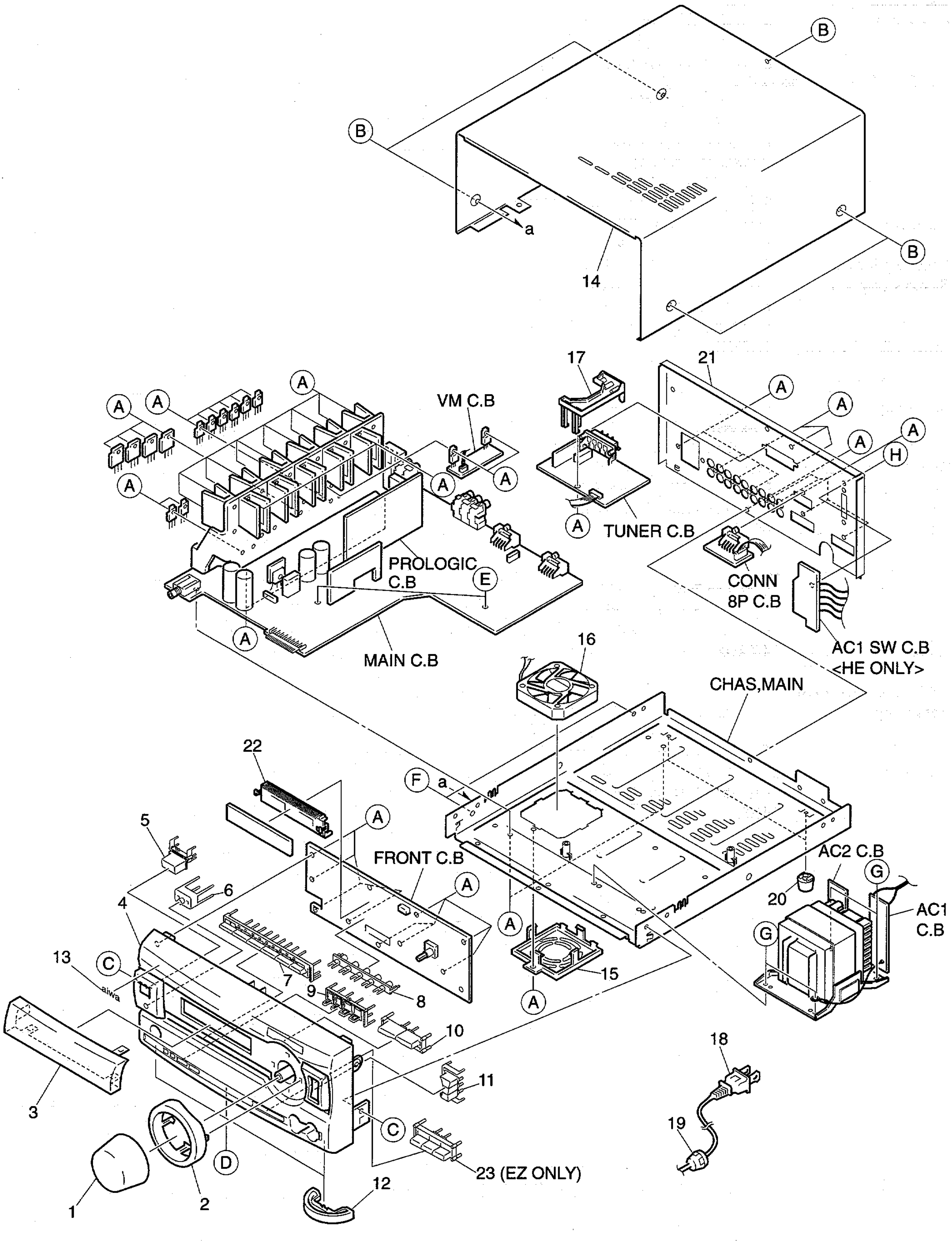
### <FM SECTION>
IHF Sensitivity : Less than 10 / 9 / 9dB (HE)
(THD 3%) [at 87.5 / 98.0 / 108.0MHz (HE)]
Less than 11 / 10 / 10dB (EZ,K)
[at 87.5 / 98.0 / 108.0MHz (EZ,K)]
S/N 50dB Quieting sensitivity :
Less than 35dB (HE)
[at 98.0MHz (HE)]
Less than 38dB (EZ,K)
[at 98.0MHz (EZ,K)]
Signal to noise ratio : Mono : More than 72dB
Stereo : More than 66dB [at 98.0MHz ]
Distortion : Mono : Less than 1.2%
Stereo : Less than 2.0% [at 98.0MHz]
Auto stop level : 25dB ± 10dB [at 98.0MHz]
Stereo separation : HE : More than 30dB [at 98.0MHz]
K : More than 22dB [at 98.0MHz]
EZ : More than 20dB [at 98.0MHz]
Intermediate frequency : 10.7MHz

### <MW SECTION>
Sensitivity : Less than 60dB [at 603kHz]
Less than 58dB [at 999kHz]
Less than 58dB [at 1404kHz]
Signal to noise ratio : More than 36dB [at 999kHz]
Distortion : Less than 1.5% [at 999kHz]
Auto stop level : 52dB +10/-15dB [at 999kHz]
Intermediate frequency : 450kHz

### <LW SECTION> (EZ,K)
Sensitivity : Less than 70dB [at 144kHz]
Less than 66dB at 198kHz]
Less than 66dB [at 290kHz]
Intermediate frequency : 450kHz

### <SW SECTION> (HE)
Sensitivity : Less than 51dB [at 5.9MHz]
Less than 45dB [at 12.0 MHz]
Less than 44dB [at 17.9MHz]
Overload Signal Distortion :
Less than 10% [at 12.0MHz]
Intermediate frequency : 450kHz

# MECHANICAL EXPLODED VIEW 1 / 1 (MX-NAVH1000)


B
B
B
B
a
14
17
21
VM C.B
A
TUNER C.B
PROLOGIC C.B
E
MAIN C.B
CONN 8P C.B
AC1 SW C.B <HE ONLY>
H
16
CHAS,MAIN
22
F
a
5
6
4
FRONT C.B
13
C
aiwa
7
9
8
10
11
15
AC2 C.B
G
20
AC1 C.B
18
19
3
1
2
D
C
12
23 (EZ ONLY)

# MECHANICAL PARTS LIST 1 / 1 (MX-NAVH1000)

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

| REF. NO. | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| 1 | 88-SP1-010-010 | | KNOB,RTRY VOL |
| 2 | 88-SP1-011-010 | | RING,VOL |
| 3 | 88-SP1-004-010 | | WINDOW,DISPLAY |
| 4 | 88-SPM-001-010 | | CABI,FR<K,HE> |
| 4 | 88-SPM-018-010 | | CABI,FR EZ<EZ> |
| 5 | 88-SP1-006-010 | | KEY,POWER |
| 6 | 88-SP1-016-010 | | LENS,SENSOR |
| 7 | 88-SP1-015-010 | | KEY,ASSY FUN |
| 8 | 88-SP1-211-010 | | GUIDE,FUN |
| 9 | 88-SP1-012-010 | | KEY,TUNING |
| 10 | 88-SP1-007-010 | | KEY,BBE |
| 11 | 88-SP1-008-010 | | KEY,KARAOKE |
| 12 | 88-SU1-014-010 | | RING,FOOT |
| 13 | 82-NE6-067-010 | | BADGE,AIWA 30N |
| 14 | 88-SP1-002-010 | | CABI,STEEL |
| 15 | 88-SP1-208-010 | | COVER, FAN |
| 16 | 87-A90-796-010 | | FAN,F614R-12MC-15-300MM |
| 17 | 88-AR1-203-010 | | HLDR,TU |
| ⚠ 18 | 87-050-079-010 | | AC-CORD ASSY,E |
| 19 | 87-085-185-010 | | BUSHING, AC CORD (E) |

| REF. NO. | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| 20 | 87-085-213-010 | | FOOT,H12.5 |
| 21 | 88-SPM-035-010 | | PANEL,REAR EZSN<EZ> |
| 21 | 88-SPM-041-010 | | PANEL,REAR HES<HE> |
| 21 | 88-SPM-034-010 | | PANEL,REAR KSN<K> |
| 22 | 88-SX1-203-010 | | GUIDE,FL |
| 23 | 88-SP1-009-010 | | KEY,RDS<EZ> |
| A | 87-067-703-010 | | TAPPING SCREW, BVT2+3-10 |
| B | 87-067-641-010 | | UTT2+3-8(W/O SLOT)BL |
| C | 87-591-094-410 | | TAPPING SCREW, QIT+3-6 |
| D | 87-067-688-010 | | BVTT+3-6 |
| E | 87-B10-190-010 | | BVT2+3-22 W/O SLOT<EZ,HE> |
| E | 87-B10-191-010 | | VT2+3-22 W/O SLOT<K> |
| F | 87-721-095-410 | | QT2+3-8GLD W/O SLOT |
| G | 87-078-019-010 | | S-SCREW,IT+4-6 |
| H | 81-653-215-010 | | SPECIAL SCREW, VT2.6-8<HE> |

MODEL NO.

# DX-NH1000

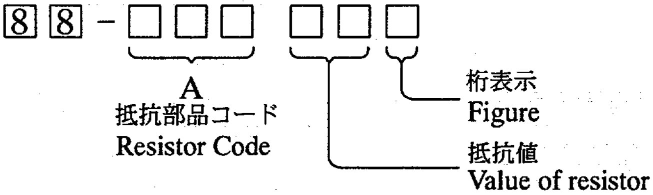
## ELECTRICAL MAIN PARTS LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

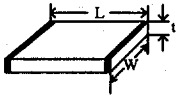
| REF. NO. | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| IC | | | |
| | 88-SX1-606-010 | | IC,UPD78046HGF-020-3B9 |
| TRANSISTOR | | | |
| | 89-324-123-080 | | C-TR,2SC2412K S |
| | 87-026-263-080 | | C-TR,RN1410 |
| | 87-A30-074-080 | | C-TR,RT1P 141C |
| | 87-A30-076-080 | | C-TR,2SC3052F |
| DIODE | | | |
| | 87-A40-470-080 | | DIODE,1SS254 |
| | 87-070-136-080 | | ZENER,MTZJ5.1B |
| MAIN C.B | | | |
| CN302 | 87-099-194-010 | | CONN,6P 6216V |
| CN303 | 87-099-015-010 | | CONN,13P 6216V |
| FB301 | 87-008-372-080 | | FLTR,EMI BL01RN1 |
| FB302 | 87-008-372-080 | | FLTR,EMI BL01RN1 |
| FB303 | 87-008-372-080 | | FLTR,EMI BL01RN1 |
| FB304 | 87-008-372-080 | | FLTR,EMI BL01RN1 |
| FB305 | 87-008-372-080 | | FLTR,EMI BL01RN1 |
| FB306 | 87-008-372-080 | | FLTR,EMI BL01RN1 |
| FB307 | 87-008-372-080 | | FLTR,EMI BL01RN1 |
| L301 | 87-005-152-080 | | COIL,10UH |
| W301 | 88-SX1-610-010 | | CORD,FG 11P |
| W302 | 88-906-481-110 | | FF-CABLE, 6P 1.25 480MM |
| W303 | 88-913-121-110 | | FF-CABLE,13P 1.25 |
| FRONT C.B | | | |
| C1 | 87-010-263-040 | | CAP,E 100-10 |
| C2 | 87-010-494-040 | | CAP,E 1-50 GAS |
| C3 | 87-010-496-040 | | CAP,E 3.3-50 GAS |
| C4 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C5 | 87-010-190-080 | | C-CAP,S 0.01-50 ZF |
| C6 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C7 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C8 | 87-010-312-080 | | C-CAP,S 15P-50 CH |
| C9 | 87-010-318-080 | | CHIP CAP,S 47P-50 CH |
| C10 | 87-010-316-080 | | C-CAP,S 33P-50 CH |
| C11 | 87-018-134-080 | | CAPACITOR,TC-U 0.01-16 |
| C12 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C13 | 87-010-246-040 | | CAP,E 47-35 SME |
| C249 | 87-015-689-080 | | CAP,E 10-35 7L<Y> |
| C250 | 87-015-689-080 | | CAP,E 10-35 7L<Y> |
| C251 | 87-010-178-080 | | CHIP CAP 1000P |
| C252 | 87-010-178-080 | | CHIP CAP 1000P |
| C253 | 87-010-178-080 | | CHIP CAP 1000P |
| C254 | 87-010-178-080 | | CHIP CAP 1000P |
| C255 | 87-010-178-080 | | CHIP CAP 1000P |
| C256 | 87-010-178-080 | | CHIP CAP 1000P |
| C257 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| CN3 | 87-099-194-010 | | CONN,6P 6216V |
| FL201 | 88-SX1-609-010 | | FL,6-BT-293GK |
| L1 | 87-005-152-080 | | COIL,10UH |
| L2 | 87-005-152-080 | | COIL,10UH |
| L3 | 87-005-152-080 | | COIL,10UH |
| L5 | 87-005-152-080 | | COIL,10UH |
| LED201 | 87-A40-446-040 | | LED,SLP-7131F-81H-S-T1 P-GRN |
| LED202 | 87-A40-446-040 | | LED,SLP-7131F-81H-S-T1 P-GRN |
| LED203 | 87-A40-446-040 | | LED,SLP-7131F-81H-S-T1 P-GRN |
| LED204 | 87-A40-446-040 | | LED,SLP-7131F-81H-S-T1 P-GRN |
| S201 | 87-A90-809-080 | | SW,TACT TSTA-2 |
| S202 | 87-A90-809-080 | | SW,TACT TSTA-2 |
| S203 | 87-A90-809-080 | | SW,TACT TSTA-2 |
| S204 | 87-A90-809-080 | | SW,TACT TSTA-2 |
| W3 | 88-906-201-110 | | FF-CABLE,6P 1.25 |
| X1 | 87-A70-075-080 | | VIB,CER 4.19MHZ CRHF |
| KEY C.B | | | |
| CN101 | 87-099-194-010 | | CONN,6P 6216V |
| LED101 | 87-A40-521-040 | | LED,SEL6513C TP5 PGRN |
| LED102 | 87-A40-521-040 | | LED,SEL6513C TP5 PGRN |
| LED103 | 87-A40-521-040 | | LED,SEL6513C TP5 PGRN |
| LED104 | 87-A40-521-040 | | LED,SEL6513C TP5 PGRN |
| LED105 | 87-A40-521-040 | | LED,SEL6513C TP5 PGRN |
| LED106 | 87-A40-521-040 | | LED,SEL6513C TP5 PGRN |
| S101 | 87-A90-809-080 | | SW,TACT TSTA-2 |
| S102 | 87-A90-809-080 | | SW,TACT TSTA-2 |
| S103 | 87-A90-809-080 | | SW,TACT TSTA-2 |
| S104 | 87-A90-809-080 | | SW,TACT TSTA-2 |
| S105 | 87-A90-809-080 | | SW,TACT TSTA-2 |

Oチップ抵抗部品コード／CHIP RESISTOR PART CODE

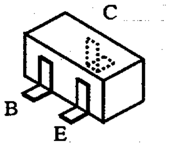
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding


8 8 -
A
抵抗部品コード
Resistor Code
桁表示
Figure
抵抗値
Value of resistor

チップ抵抗
Chip resistor

| 容量<br>Wattage | 種類<br>Type | 許容誤差<br>Tolerance | 記号<br>Symbol | 寸法／Dimensions (mm) | | | | 抵抗コード : A<br>Resistor Code : A |
|---|---|---|---|---|---|---|---|---|
| | | | | 外形／Form | L | W | t | |
| 1/16W | 1608 | ±5% | CJ |  L t W | 1.6 | 0.8 | 0.45 | 108 |
| 1/10W | 2125 | ±5% | CJ | | 2 | 1.25 | 0.45 | 118 |
| 1/8W | 3216 | ±5% | CJ | | 3.2 | 1.6 | 0.55 | 128 |

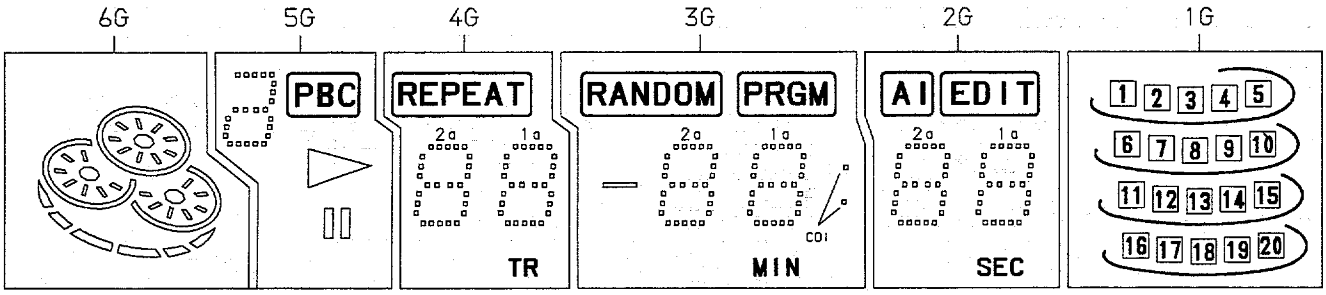
## TRANSISTOR ILLUSTRATION (DX-NH1000)

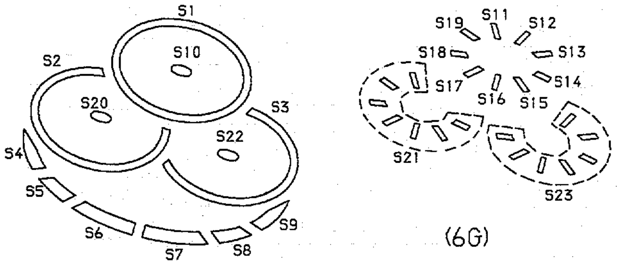


2SC3052
RT1P141C
2SC2412
RN1410

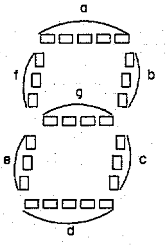
# FL (FL,6-BT-293GK) GRID ASSIGNMENT & ANODE CONNECTION (DX-NH1000)

## GRID ASSIGNMENT

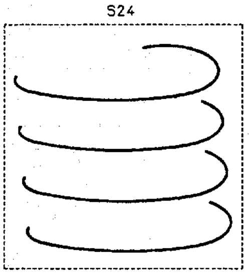

6G
5G
4G
3G
2G
1G
PBC
REPEAT
RANDOM
PRGM
AI
EDIT
2a
1a
2a
1a
2a
1a
TR
MIN
col
SEC
1 2 3 4 5
6 7 8 9 10
11 12 13 14 15
16 17 18 19 20


S1
S2
S3
S4
S5
S6
S7
S8
S9
S10
S20
S22
S19
S11
S12
S18
S13
S17
S14
S16
S15
S21
S23

(6G)



(5G~2G)

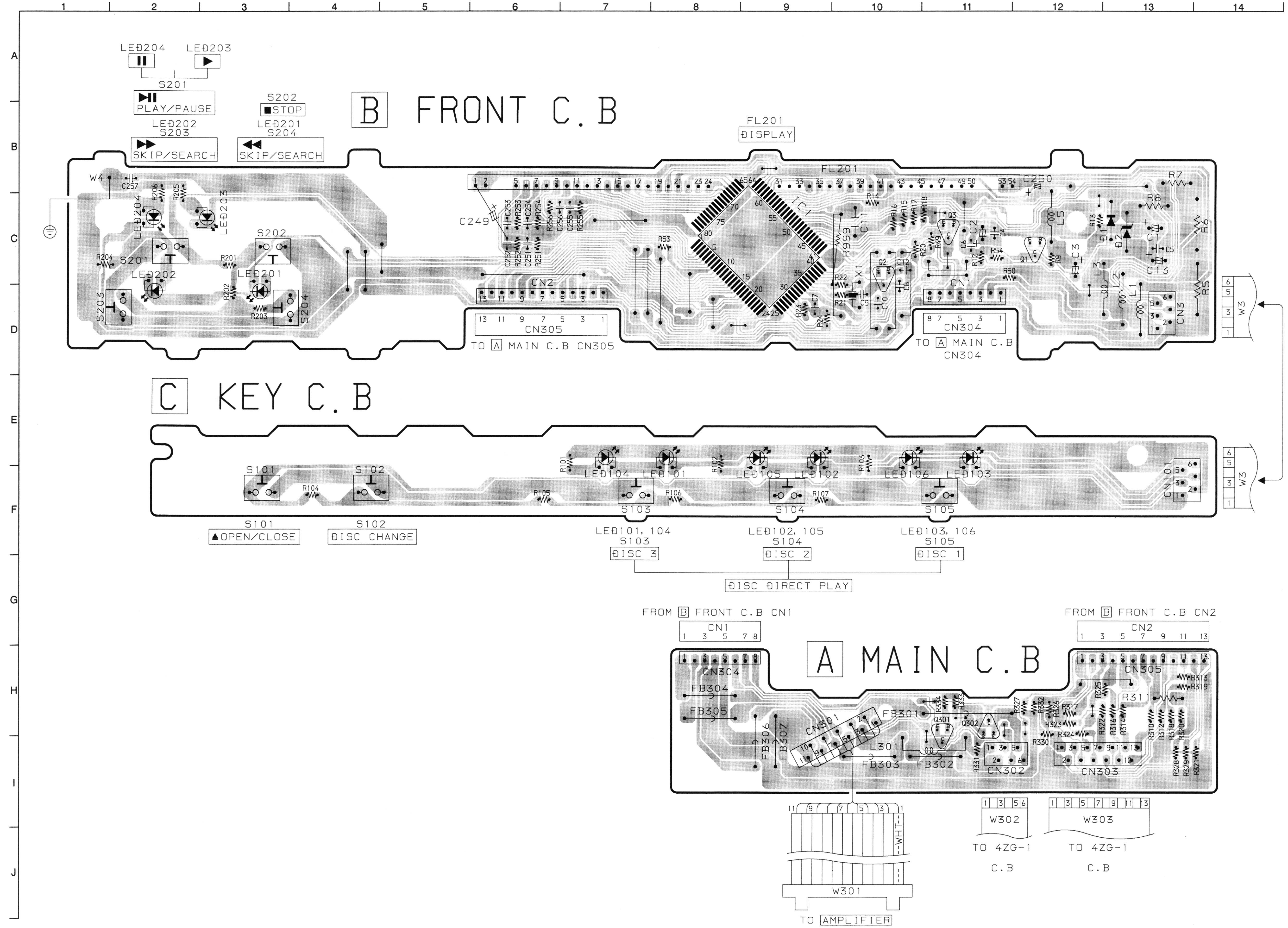


(1G)

## ANODE CONNECTION

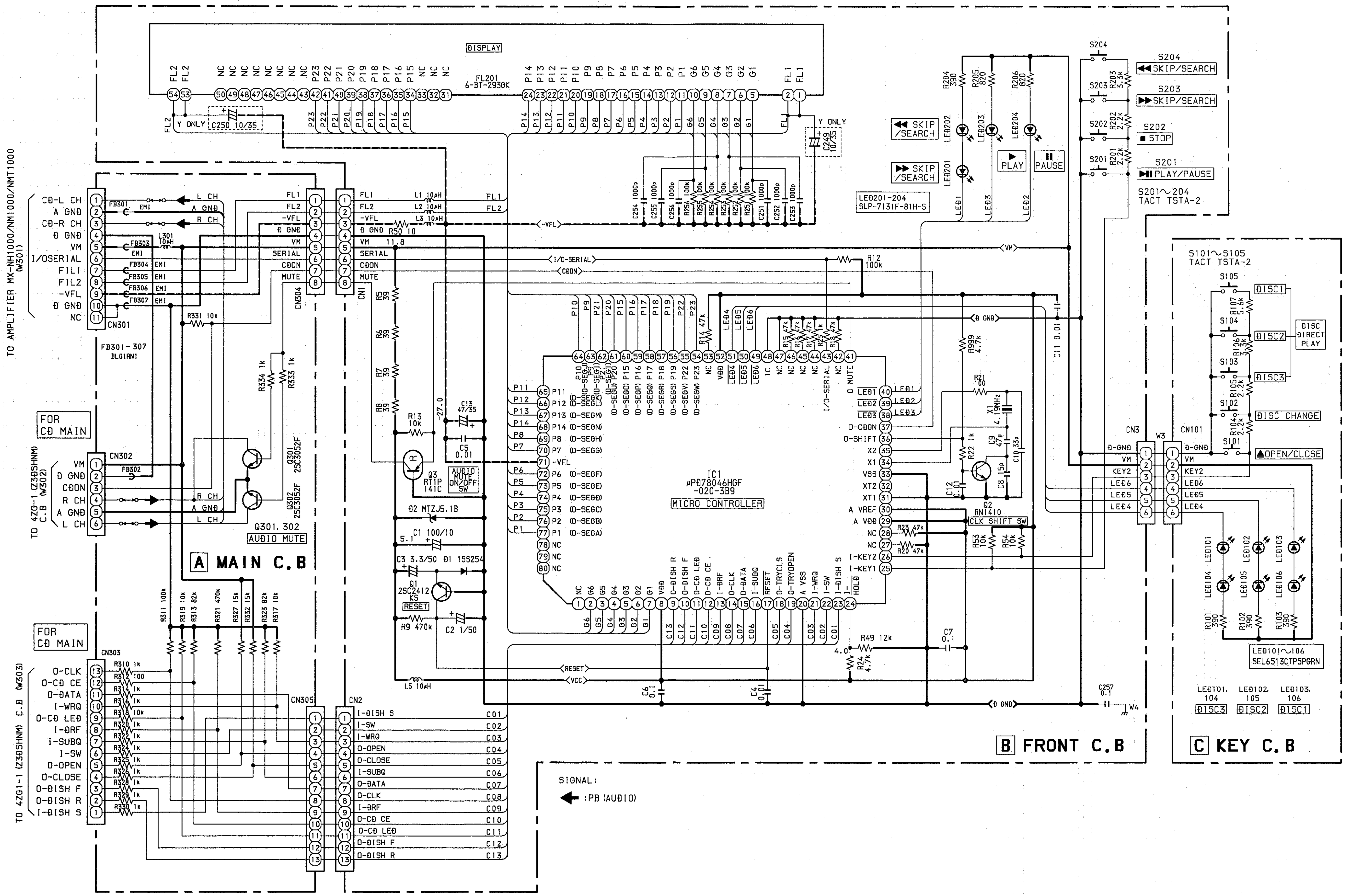
| | 6G | 5G | 4G | 3G | 2G | 1G |
|---|---|---|---|---|---|---|
| P1 | S10 | a | 1a | 1a | 1a | 1 |
| P2 | S12 | b | 1b | 1b | 1b | 2 |
| P3 | S11 | – | 1f | 1f | 1f | 3 |
| P4 | S13 | g | 1g | 1g | 1g | 4 |
| P5 | S19 | c | 1c | 1c | 1c | 5 |
| P6 | S14 | e | 1e | 1e | 1e | 6 |
| P7 | S18 | d | 1d | 1d | 1d | 7 |
| P8 | S15 | – | – | ▭ | – | 8 |
| P9 | S17 | ▷ | 2a | 2a | 2a | 9 |
| P10 | S16 | ▯▯ | 2b | 2b | 2b | 10 |
| P11 | S1 | – | 2f | 2f | 2f | 11 |
| P12 | S20 | – | 2g | 2g | 2g | 12 |
| P13 | S21 | – | 2c | 2c | 2c | 13 |
| P14 | S2 | – | 2e | 2e | 2e | 14 |
| P15 | S22 | – | 2d | 2d | 2d | 15 |
| P16 | S23 | – | TR | MIN | SEC | 16 |
| P17 | S3 | PBC | REPEAT | col | EDIT | 17 |
| P18 | S4 | (PBC) | (REPEAT) | PRGM | (EDIT) | 18 |
| P19 | S5 | – | – | (PRGM) | AI | 19 |
| P20 | S6 | – | – | RANDOM | (AI) | 20 |
| P21 | S7 | – | – | (RANDOM) | – | S24 |
| P22 | S8 | – | – | – | – | – |
| P23 | S9 | – | – | – | – | – |

# WIRING (MAIN / FRONT / KEY : DX-NH1000)



1 2 3 4 5 6 7 8 9 10 11 12 13 14
A B C D E F G H I J
B FRONT C.B
LED204
LED203
S201
PLAY/PAUSE
S202
■STOP
LED202
S203
SKIP/SEARCH
LED201
S204
SKIP/SEARCH
FL201
DISPLAY
IC1
CN2
CN1
CN3
CN305
TO A MAIN C.B CN305
CN304
TO A MAIN C.B CN304
W3
W4
C KEY C.B
S101
S102
S103
S104
S105
CN101
S101
▲OPEN/CLOSE
S102
DISC CHANGE
LED101, 104
S103
DISC 3
LED102, 105
S104
DISC 2
LED103, 106
S105
DISC 1
DISC DIRECT PLAY
A MAIN C.B
FROM B FRONT C.B CN1
FROM B FRONT C.B CN2
CN304
CN305
CN301
CN302
CN303
W301
TO AMPLIFIER
W302
TO 4ZG-1 C.B
W303
TO 4ZG-1 C.B
-WHT-

# SCHEMATIC DIAGRAM (MAIN / FRONT / KEY : DX–NH1000)


DISPLAY
FL201
6-BT-293GK
Y ONLY
C250 10/35
C249 10/35
TO AMPLIFIER MX-NH1000/NM1000/NMT1000 (W301)
CD-L CH
A GND
CD-R CH
D GND
VM
I/OSERIAL
FIL1
FIL2
-VFL
D GND
NC
CN301
FB301 - 307
BL01RN1
L301 10µH
R331 10k
CN304
CN1
L1 10µH
L2 10µH
L3 10µH
R50 10
SERIAL
CDON
MUTE
R5 39
R6 39
R7 39
R8 39
R334 1k
R333 1k
FOR CD MAIN
TO 4ZG-1 (Z3DSHNM) C.B (W302)
CN302
FB302
Q301 2SC3052F
Q302 2SC3052F
Q301, 302
AUDIO MUTE
R13 10k
C13 47/35
C5 0.01
Q3 RT1P 141C
AUDIO MUTE ON/OFF SW
D2 MTZJ5.1B
C1 100/10
C3 3.3/50
D1 1SS254
Q1 2SC2412 KS
RESET
R9 470k
C2 1/50
L5 10µH
A MAIN C.B
TO 4ZG1-1 (Z3DSHNM) C.B (W303)
CN303
O-CLK
O-CD CE
O-DATA
I-WRQ
O-CD LED
I-DRF
I-SUBQ
I-SW
O-OPEN
O-CLOSE
O-DISH F
O-DISH R
I-DISH S
CN305
CN2
IC1
µPD78046HGF
-020-3B9
MICRO CONTROLLER
R12 100k
R999 4.7k
R21 100
X1 4.19MHz
C9 47p
C10 33p
C8 15p
C12 0.01
Q2 RN1410
CLK SHIFT SW
R23 47k
R20 47k
R53 10k
R54 10k
R49 12k
R24 4.7k
C7 0.1
C6 0.1
C4 0.01
C11 0.01
C257 0.1
W4
RESET
VCC
D GND
I/O-SERIAL
VM
LED201-204
SLP-7131F-81H-S
SKIP/SEARCH
PLAY
PAUSE
S204 SKIP/SEARCH
S203 SKIP/SEARCH
S202 STOP
S201 PLAY/PAUSE
S201～204
TACT TSTA-2
R204 390
R205 820
R206 820
R203 3.3k
R202 2.2k
R201 2.2k
CN3
W3
CN101
KEY2
LED6
LED5
LED4
B FRONT C.B
S101～S105
TACT TSTA-2
DISC1
DISC2
DISC3
DISC DIRECT PLAY
DISC CHANGE
OPEN/CLOSE
R107 5.6k
R106 3.3k
R105 2.2k
R104 2.2k
R101 390
R102 390
R103 390
LED101～106
SEL6513CTP5PGRN
LED101, 104 DISC3
LED102, 105 DISC2
LED103, 106 DISC1
C KEY C.B
SIGNAL:
:PB (AUDIO)

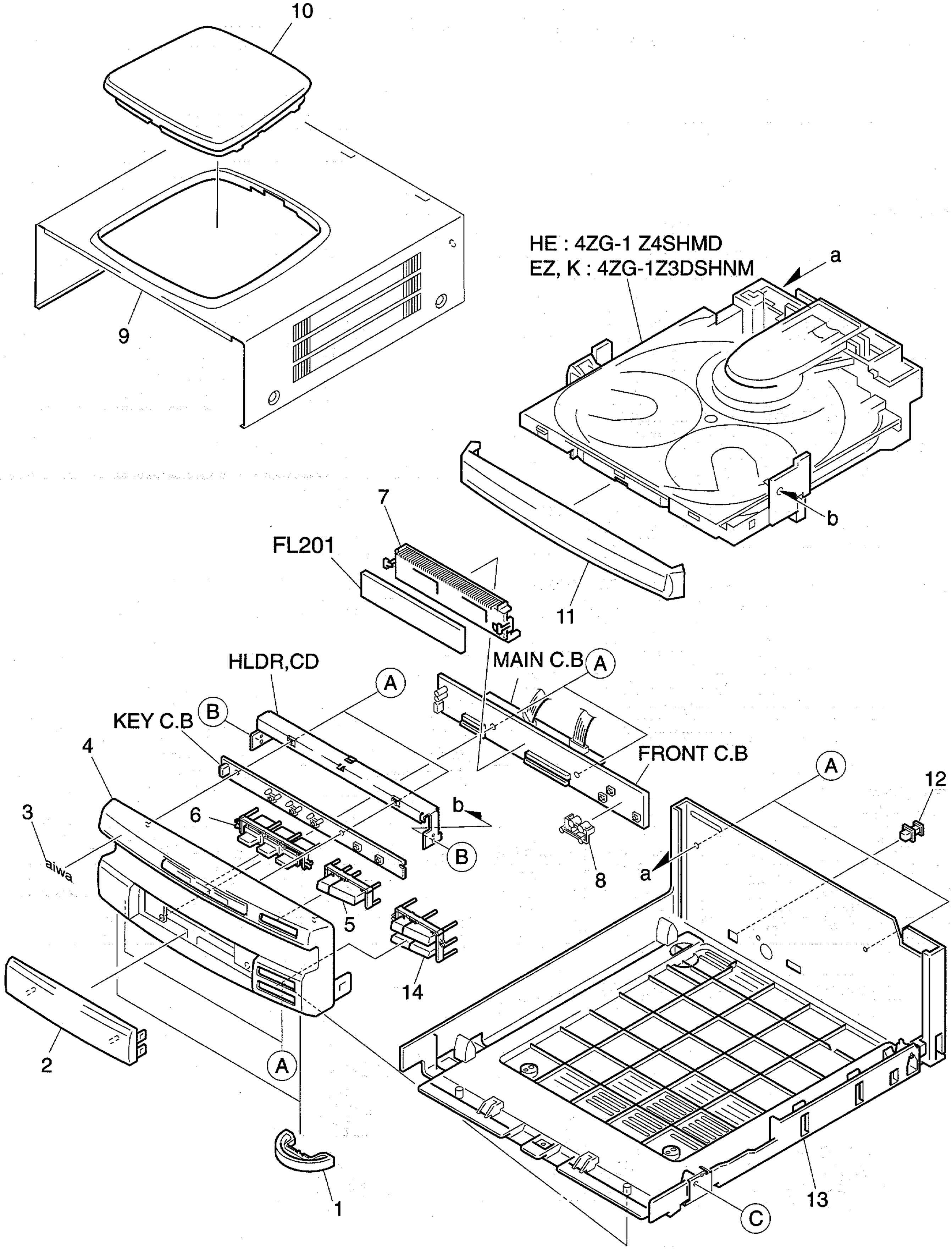
# IC DESCRIPTION (DX-NH1000)

IC, UPD78046HGF-020-3B9

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1 | NC | – | Not connected. |
| 2~7 | G6~G1 | O | FL grid output G6~G1. |
| 8 | VDD | – | Power supply terminal. |
| 9 | O-DISH R | O | CD turntable reverse rotation output. |
| 10 | O-DISH F | O | CD turntable forward rotation output. |
| 11 | O-CD LED | O | CD flash window LED ON/OFF output. |
| 12 | O-CD CE | O | CD chip enable output. |
| 13 | I-DRF | I | RF input level detection. |
| 14 | O-CLK | O | CD clock output. |
| 15 | O-DATA | O | CD data output. |
| 16 | I-SUBQ | I | CD subcode input. |
| 17 | $\overline{\text{RESET}}$ | I | Reset input. |
| 18 | O-TRYCLS | O | CD tray close output. |
| 19 | O-TRYOPN | O | CD tray open output. |
| 20 | A VSS | – | GND. |
| 21 | I-WRQ | I | CD WRQ output. |
| 22 | I-SW | I | CD motor key switch A/D input. |
| 23 | I-DISH S | I | CD turntable photo sensor A/D input. |
| 24 | I-$\overline{\text{HOLD}}$ | I | Power supply / voltage monitoring. |
| 25 | I-KEY1 | I | Key1 A/D input. |
| 26 | I-KEY2 | I | Key2 A/D input. |
| 27 | NC | – | Not used. |
| 28 | NC | – | Not used. |
| 29 | A VDD | – | Power supply terminal. |
| 30 | A VREF | – | Power supply terminal. |
| 31 | (XT1) | – | Connect to GND. |
| 32 | XT2 | – | Connect to GND. |
| 33 | VSS | – | GND. |
| 34 | X1 | – | 4.19MHz oscillator circuit. |
| 35 | X2 | | |
| 36 | O-SHIFT | O | Micro controller clock shift output. |
| 37 | O-CD ON | O | Power supply output for CD circuit ("H": ON). |
| 38 | $\overline{\text{LED-3}}$ | O | Play LED output. |
| 39 | $\overline{\text{LED-2}}$ | O | Pause LED output. |
| 40 | $\overline{\text{LED-1}}$ | O | Skip LED output. |
| 41 | O-MUTE | O | CD Audio mute output. |
| 42 | NC | – | Not used. |
| 43 | I/O-SERIAL | I/O | Serial data input / output. |
| 44~47 | NC | – | Not used. |
| 48 | IC | – | Connect to GND. |
| 49 | $\overline{\text{LED6}}$ | O | Disc1 LED output. |
| 50 | $\overline{\text{LED5}}$ | O | Disc2 LED output. |

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 51 | $\overline{\text{LED4}}$ | O | Disc3 LED output. |
| 52 | VDD | – | Power supply terminal. |
| 53 | NC | – | Not used. |
| 54 | P23 (O-SEG W) | O | FL segment output P23. |
| 55 | P22 (O-SEG V) | O | FL segment output P22. |
| 56 | P19 (O-SEG S) | O | FL segment output P19. |
| 57 | P18 (O-SEG R) | O | FL segment output P18. |
| 58 | P17 (O-SEG Q) | O | FL segment output P17. |
| 59 | P16 (O-SEG P) | O | FL segment output P16. |
| 60 | P15 (O-SEG O) | O | FL segment output P15. |
| 61 | P20 (O-SEG T) | O | FL segment output P20. |
| 62 | P21 (O-SEG U) | O | FL segment output P21. |
| 63 | P9 (O-SEG I) | O | FL segment output P9. |
| 64 | P10 (O-SEG J) | O | FL segment output P10. |
| 65 | P11 (O-SEG K) | O | FL segment output P11. |
| 66 | P12 (O-SEG L) | O | FL segment output P12. |
| 67 | P13 (O-SEG M) | O | FL segment output P13. |
| 68 | P14 (O-SEG N) | O | FL segment output P14. |
| 69, 70, 72~77 | P8~1 (O-SEG H~A) | O | FL segment output P8~P1. |
| 71 | -VFL | – | FL display negative supply terminal. |
| 78~80 | NC | – | Not connected. |

# MECHANICAL EXPLODED VIEW 1 / 1 (DX-NH1000)


10
9
HE : 4ZG-1 Z4SHMD
EZ, K : 4ZG-1Z3DSHNM
a
b
7
FL201
11
HLDR,CD
MAIN C.B
A
KEY C.B
B
4
FRONT C.B
A
12
3
6
b
B
aiwa
5
8
a
14
2
A
1
13
C

# MECHANICAL PARTS LIST 1 / 1 (DX-NH1000)

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

| REF. NO. | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| 1 | 88-SU1-014-010 | | RING,FOOT |
| 2 | 88-SX1-004-010 | | WINDOW,DISPLAY |
| 3 | 82-NE6-067-010 | | BADGE,AIWA 30N |
| 4 | 88-SX1-001-010 | | CABI,FR |
| 5 | 88-SX1-005-010 | | KEY,OPEN |
| 6 | 88-SX1-010-010 | | KEY,ASSY DISC |
| 7 | 88-SX1-203-010 | | GUIDE,FL |
| 8 | 88-SX1-202-110 | | GUIDE,LED OPE |
| 9 | 88-SX1-002-010 | | CABI,STEEL |
| 10 | 86-NF6-007-010 | | WINDOW,TOP |
| 11 | 88-SX1-003-010 | | PANEL,TRAY |
| 12 | 84-ZG1-245-210 | | CAP,OPTICAL |
| 13 | 88-SX1-024-110 | | CABI,REAR YSN<YSN> |
| 13 | 88-SX1-021-110 | | CABI,REAR YS<YS> |
| 14 | 88-SX1-015-110 | | KEY,ASSY OPE |
| A | 87-067-703-010 | | TAPPING SCREW, BVT2+3-10 |
| B | 87-721-097-410 | | QT2+3-12 GLD |
| C | 87-067-633-010 | | TAPPING SCREW, BVT2+3-8 |

MODEL NO.

# FX-NH1000

## ELECTRICAL MAIN PARTS LIST

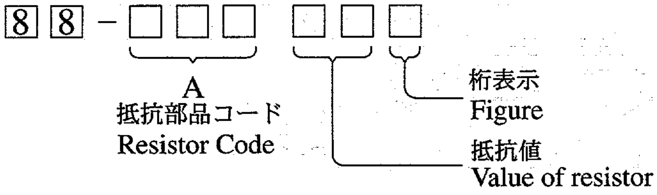
If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

| REF. NO. | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| IC | | | |
| | 87-A20-455-010 | | IC,HA12211 |
| | 87-A20-355-010 | | IC,CXA1553P |
| | 88-SW1-608-010 | | IC,M38503M4-062FP |
| TRANSISTOR | | | |
| | 87-A30-087-080 | | C-FET,2SK2158 |
| | 87-A30-074-080 | | C-TR,RT1P141C |
| | 87-026-610-080 | | TR,KTC3198GR |
| | 87-A30-073-080 | | C-TR,RT1N141C |
| | 87-A30-076-080 | | C-TR,2SC3052F |
| | 89-112-965-080 | | TR,2SA1296 |
| | 87-A30-085-070 | | C-TR,CSA1362GR |
| | 89-318-155-080 | | TR,2SC1815 |
| | 87-026-263-080 | | C-TR,RN1410 |
| | 87-A30-071-080 | | C-TR,RT1N144C |
| DIODE | | | |
| | 87-A40-470-080 | | DIODE,1SS254 |
| | 87-A40-269-080 | | C-DIODE,MC2836 |
| | 87-017-931-080 | | ZENER,MTZJ5.6B |
| MIAN C.B | | | |
| C301 | 87-010-318-080 | | C-CAP,S 47P-50 CH |
| C302 | 87-010-318-080 | | C-CAP,S 47P-50 CH |
| C303 | 87-012-157-080 | | C-CAP,S 330P-50 CH |
| C304 | 87-012-157-080 | | C-CAP,S 330P-50 CH |
| C305 | 87-012-145-080 | | CAP, CHIP S 270P-50 |
| C306 | 87-012-145-080 | | CAP, CHIP S 270P-50 |
| C307 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C311 | 87-010-198-080 | | CAP, CHIP 0.022-25 |
| C312 | 87-010-198-080 | | CAP, CHIP 0.022-25 |
| C313 | 87-010-180-080 | | C-CAP,1500P-50 |
| C314 | 87-010-180-080 | | C-CAP,1500P-50 |
| C315 | 87-010-178-080 | | CHIP CAP 1000P-50 |
| C316 | 87-010-178-080 | | CHIP CAP 1000P-50 |
| C317 | 87-012-142-080 | | CAP, S 0.33-16 |
| C318 | 87-012-142-080 | | CAP, S 0.33-16 |
| C319 | 87-012-141-080 | | C-CAP,S 0.22-16 Z F |
| C320 | 87-012-141-080 | | C-CAP,S 0.22-16 Z F |
| C321 | 87-012-141-080 | | C-CAP,S 0.22-16 Z F |
| C322 | 87-012-141-080 | | C-CAP,S 0.22-16 Z F |
| C324 | 87-010-260-080 | | CAP, ELECT 47-25V |
| C325 | 87-010-370-080 | | CAP,E 330-6.3 SME |
| C327 | 87-010-404-080 | | CAP,E 4.7-50 |
| C328 | 87-010-404-080 | | CAP,E 4.7-50 |
| C332 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C335 | 87-010-401-080 | | CAP,E 1-50 |
| C336 | 87-010-401-080 | | CAP,E 1-50 |
| C337 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C339 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C340 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C351 | 87-012-140-080 | | C-CAP,S 470P-50 CH |
| C352 | 87-012-140-080 | | C-CAP,S 470P-50 CH |
| C356 | 87-010-260-080 | | CAP, ELECT 47-25V |
| C357 | 87-010-197-080 | | CAP, CHIP 0.01-25 |
| C358 | 87-010-183-080 | | C-CAP,S 2700P-50 B |
| C359 | 87-010-183-080 | | C-CAP,S 2700P-50 B |
| C360 | 87-010-183-080 | | C-CAP,S 2700P-50 B |
| C370 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C371 | 87-010-179-080 | | CAP,CHIP S B1200P-50 |
| C372 | 87-010-179-080 | | CAP,CHIP S B1200P-50 |
| C373 | 87-010-179-080 | | CAP,CHIP S B1200P-50 |
| C374 | 87-010-179-080 | | CAP,CHIP S B1200P-50 |
| C375 | 87-010-545-080 | | CAP,E 0.22-50 |
| C376 | 87-010-545-080 | | CAP,E 0.22-50 |
| C378 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C381 | 87-010-197-080 | | CAP, CHIP 0.01-25 |
| C382 | 87-010-318-080 | | C-CAP,S 47P-50 CH |
| C383 | 87-010-197-080 | | CAP, CHIP 0.01-25 |
| C384 | 87-010-402-080 | | CAP,E 2.2-50 |
| C385 | 87-010-184-080 | | C-CAP,S 3300P-50 |
| C386 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C388 | 87-010-154-080 | | C-CAP,S 10P-50 |
| C601 | 87-015-997-010 | | CAP, ELECT 2200UF-16V |
| C602 | 87-010-381-080 | | CAP,E 330-16 |
| C603 | 87-010-101-080 | | CAP,E 220-16 |
| C604 | 87-010-237-080 | | CAP, ELECT 1000-16V |
| C605 | 87-010-198-080 | | CAP, CHIP 0.022-25 |
| C606 | 87-010-546-080 | | CAP,E 0.33-50 |
| C607 | 87-010-263-080 | | CAP, ELECT 100-10V |
| C609 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C610 | 87-010-320-080 | | CHIP CAP 68P-50 |
| C611 | 87-010-312-080 | | C-CAP,S 15P-50 CH |
| C612 | 87-010-316-080 | | C-CAP,S 33P-50 CH |
| C613 | 87-010-404-080 | | CAP,E 4.7-50 |
| C614 | 87-010-197-080 | | CAP, CHIP 0.01-25 |
| FB301 | 87-008-372-080 | | FILTER, EMI BL OIRNI |
| FB601 | 87-008-372-080 | | FILTER, EMI BL OIRNI |
| FB602 | 87-008-372-080 | | FILTER, EMI BL OIRNI |
| FB603 | 87-008-372-080 | | FILTER, EMI BL OIRNI |
| L301 | 87-A50-049-010 | | COIL,TRAP 85K(COI) |
| L302 | 87-A50-049-010 | | COIL,TRAP 85K(COI) |
| L351 | 87-007-342-010 | | COIL,OSC 85K BIAS |
| L601 | 87-005-130-080 | | COIL,10UH |
| L603 | 87-005-130-080 | | COIL,10UH |
| SFR301 | 87-A90-636-080 | | SFR,33K H RH0638C LG |
| SFR302 | 87-A90-636-080 | | SFR,33K H RH0638C LG |
| SFR303 | 87-A90-636-080 | | SFR,33K H RH0638C LG |
| SFR304 | 87-A90-636-080 | | SFR,33K H RH0638C LG |
| SFR305 | 87-A90-637-080 | | SFR,47K H RH0638C LG |
| SFR306 | 87-A90-637-080 | | SFR,47K H RH0638C LG |
| SFR351 | 87-A90-637-080 | | SFR,47K H RH0638C LG |
| SFR352 | 87-A90-637-080 | | SFR,47K H RH0638C LG |
| W501 | 88-915-161-110 | | FF-CABLE,15P-1.25 |
| W601 | 88-SW1-607-010 | | CORD,FG9P |
| W701 | 88-904-331-110 | | FF-CABLE,4P 1.25 330MM |
| W702 | 88-906-301-110 | | FF-CABLE,6P-1.25 |
| X601 | 87-A70-120-080 | | VIB,8.00MHZ |
| FRONT-1 C.B | | | |
| D702 | 87-002-787-080 | | LED,SEL 6215S RED |
| S701 | 87-A90-809-080 | | SW,TACT TSTA-2 |
| S702 | 87-A90-809-080 | | SW,TACT TSTA-2 |
| S703 | 87-A90-809-080 | | SW,TACT TSTA-2 |
| S704 | 87-A90-809-080 | | SW,TACT TSTA-2 |
| FRONT-2 C.B | | | |
| D711 | 87-070-197-080 | | LED,SLP7118C-51-S-T1 |
| D712 | 87-070-197-080 | | LED,SLP7118C-51-S-T1 |
| D713 | 87-070-197-080 | | LED,SLP7118C-51-S-T1 |
| S711 | 87-A90-809-080 | | SW,TACT TSTA-2 |
| S712 | 87-A90-809-080 | | SW,TACT TSTA-2 |

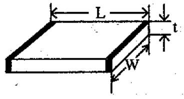
| REF. NO. | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| S713 | 87-A90-809-080 | | SW,TACT TSTA-2 |
| S714 | 87-A90-809-080 | | SW,TACT TSTA-2 |
| S715 | 87-A90-809-080 | | SW,TACT TSTA-2 |
| HEAD-1 C.B | | | |
| HEAD-2 C.B | | | |
| | 85-ZM3-602-010 | | PWB, FLEX A |
| DECK C.B | | | |
| | 87-099-756-010 | | CONN,15P 9604 S F |
| | 82-ZM3-601-010 | | RBN,CORD 4P-75 |
| SFR1 | 87-024-581-089 | | SFR,3.3K DIA 6H |
| SOL1 | 82-ZM1-618-010 | | SOL ASSY, 27 |
| SOL2 | 82-ZM1-626-010 | | SOL ASSY, 27K |
| SW1 | 87-036-110-010 | | SW,MICRO SPPB62 |
| SW2 | 87-036-110-010 | | SW,MICRO SPPB62 |
| SW3 | 87-036-110-010 | | SW,MICRO SPPB62 |
| SW4 | 87-036-110-010 | | SW,MICRO SPPB62 |
| SW6 | 87-036-110-010 | | SW,MICRO SPPB62 |
| SW7 | 87-A90-248-010 | | SW,MICRO ESE11SH2CXQ |
| SW8 | 87-A90-248-010 | | SW,MICRO ESE11SH2CXQ |
| SW9 | 87-A90-248-010 | | SW,MICRO ESE11SH2CXQ |

Oチップ抵抗部品コード／CHIP RESISTOR PART CODE

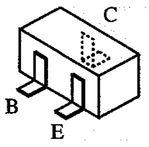
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



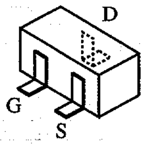
チップ抵抗
Chip resistor

| 容量 Wattage | 種類 Type | 許容誤差 Tolerance | 記号 Symbol | 寸法／Dimensions (mm) | | | | 抵抗コード : A<br>Resistor Code : A |
|---|---|---|---|---|---|---|---|---|
| | | | | 外形／Form | L | W | t | |
| 1/16W | 1608 | ±5% | CJ |  | 1.6 | 0.8 | 0.45 | 108 |
| 1/10W | 2125 | ±5% | CJ | | 2 | 1.25 | 0.45 | 118 |
| 1/8W | 3216 | ±5% | CJ | | 3.2 | 1.6 | 0.55 | 128 |

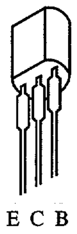
## TRANSISTOR ILLUSTRATION (FX-NH1000)



2SC3052
CSA1362
RN1410
RT1N141C
RT1N144C
RT1P141C

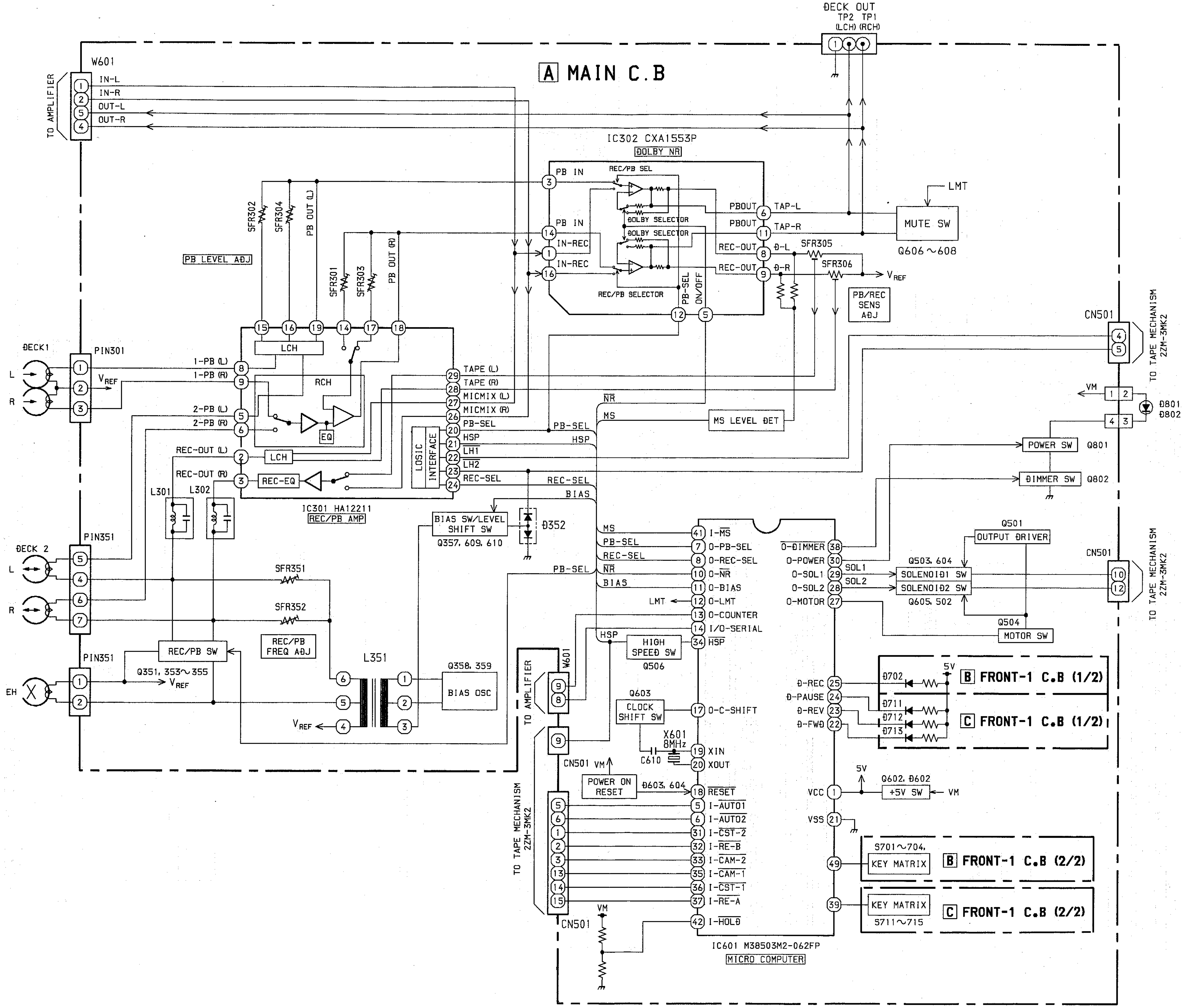


2SK2158

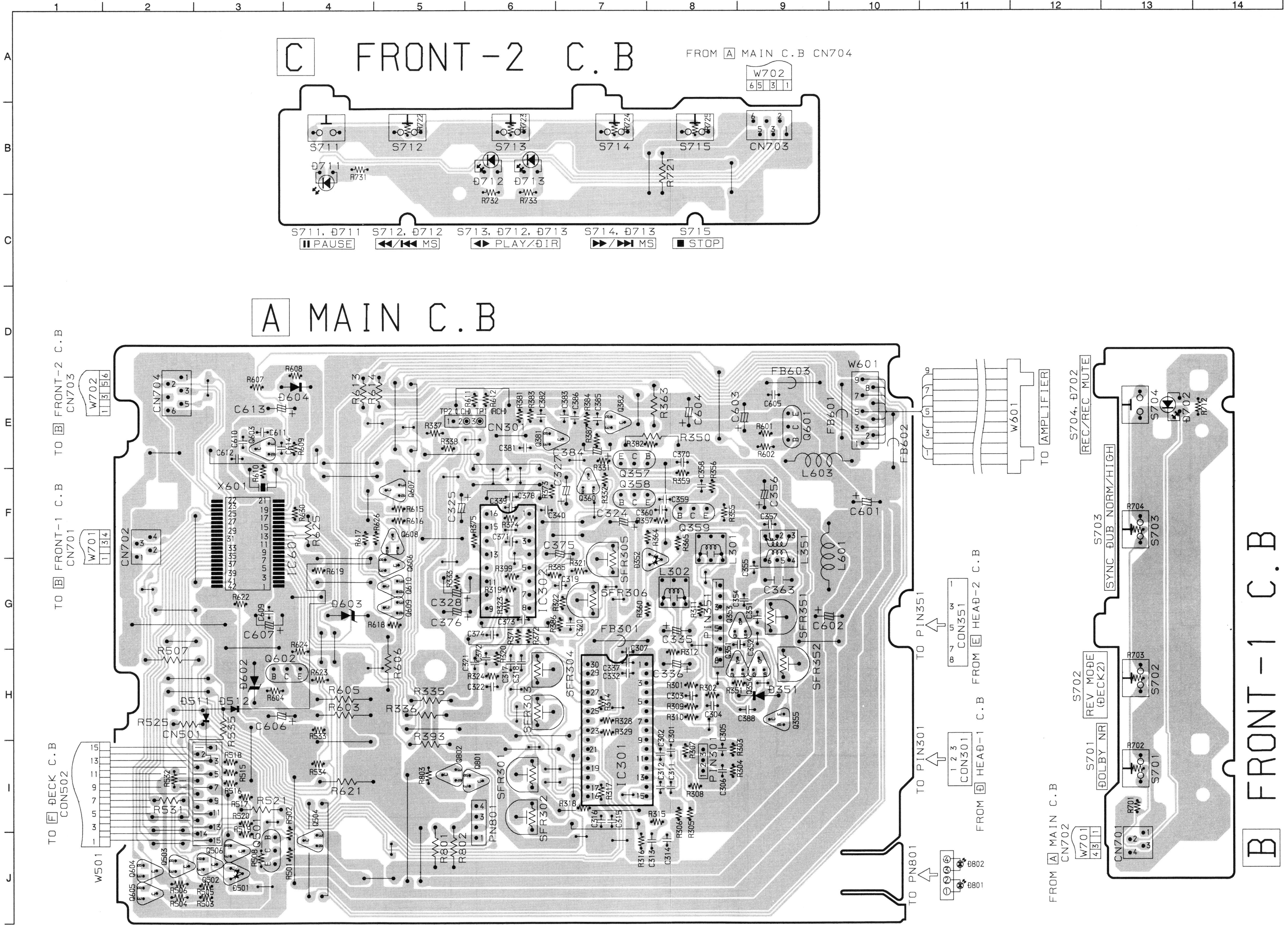


KTC3198
2SA1296
2SC1815

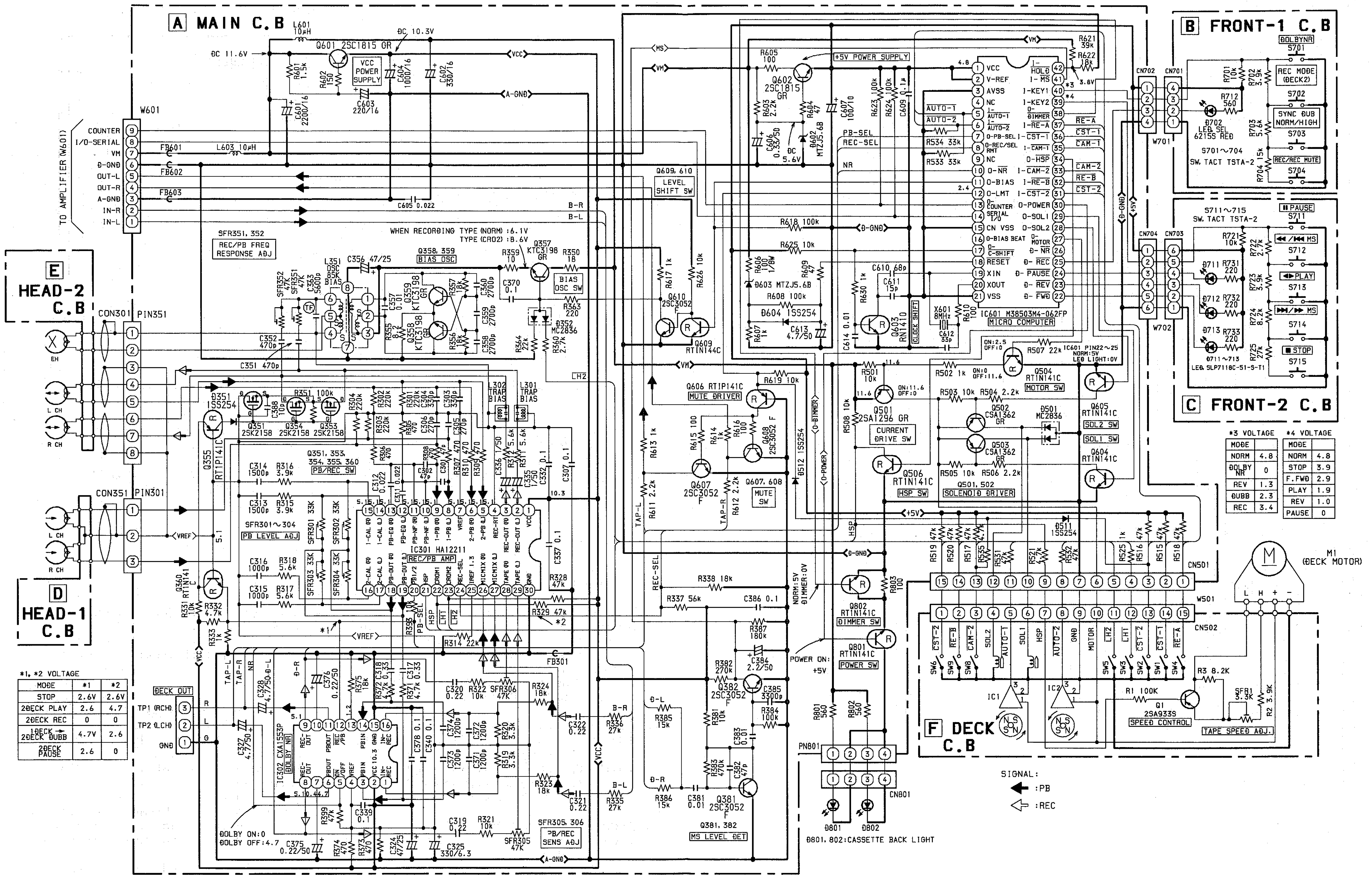
## BLOCK DIAGRAM (MAIN : FX-NH1000)


DECK OUT
TP2 TP1
(LCH) (RCH)
A MAIN C.B
W601
TO AMPLIFIER
IN-L
IN-R
OUT-L
OUT-R
IC302 CXA1553P
DOLBY NR
PB IN
REC/PB SEL
IN-REC
DOLBY SELECTOR
REC/PB SELECTOR
PB-SEL
ON/OFF
PBOUT
TAP-L
TAP-R
REC-OUT
D-L
D-R
SFR305
SFR306
VREF
PB/REC SENS ADJ
LMT
MUTE SW
Q606～608
SFR302
SFR304
PB OUT (L)
SFR301
SFR303
PB OUT (R)
PB LEVEL ADJ
LCH
RCH
EQ
LCH
REC-EQ
DECK1
PIN301
1-PB (L)
1-PB (R)
2-PB (L)
2-PB (R)
REC-OUT (L)
REC-OUT (R)
TAPE (L)
TAPE (R)
MICMIX (L)
MICMIX (R)
PB-SEL
HSP
LH1
LH2
REC-SEL
LOGIC INTERFACE
IC301 HA12211
REC/PB AMP
L301
L302
NR
MS
MS LEVEL DET
BIAS
BIAS SW/LEVEL SHIFT SW
Q357, 609, 610
D352
DECK 2
PIN351
SFR351
SFR352
REC/PB FREQ ADJ
REC/PB SW
Q351, 353～355
EH
L351
Q358, 359
BIAS OSC
CN501
TO TAPE MECHANISM 2ZM-3MK2
VM
D801
D802
POWER SW
Q801
DIMMER SW
Q802
Q501
OUTPUT DRIVER
Q503, 604
SOLENOID1 SW
SOLENOID2 SW
Q605, 502
SOL1
SOL2
Q504
MOTOR SW
I-MS
O-PB-SEL
O-REC-SEL
O-NR
O-BIAS
O-LMT
O-COUNTER
I/O-SERIAL
HSP
O-DIMMER
O-POWER
O-SOL1
O-SOL2
O-MOTOR
HIGH SPEED SW
Q506
Q603
CLOCK SHIFT SW
O-C-SHIFT
X601 8MHz
C610
XIN
XOUT
POWER ON RESET
D603, 604
RESET
I-AUTO1
I-AUTO2
I-CST-2
I-RE-B
I-CAM-2
I-CAM-1
I-CST-1
I-RE-A
I-HOLD
D-REC
D-PAUSE
D-REV
D-FWD
D702
D711
D712
D713
5V
B FRONT-1 C.B (1/2)
C FRONT-1 C.B (1/2)
VCC
VSS
Q602, D602
+5V SW
S701～704,
KEY MATRIX
B FRONT-1 C.B (2/2)
KEY MATRIX
S711～715
C FRONT-1 C.B (2/2)
IC601 M38503M2-062FP
MICRO COMPUTER

## WIRING – 1 (MAIN : FX-NH1000)


C FRONT-2 C.B
FROM A MAIN C.B CN704
W702
S711
S712
S713
S714
S715
CN703
D711
D712
D713
R721
R731
R732
R733
S711, D711 II PAUSE
S712, D712 ◀◀/I◀◀ MS
S713, D712, D713 ◀▶ PLAY/DIR
S714, D713 ▶▶/▶▶I MS
S715 ■ STOP
A MAIN C.B
TO B FRONT-2 C.B CN703
W702
TO B FRONT-1 C.B CN701
W701
TO F DECK C.B CON502
W501
CN704
CN702
CN501
IC601
X601
IC302
IC301
W601
TO AMPLIFIER
TO PIN351 FROM E HEAD-2 C.B CON351
TO PIN301 FROM D HEAD-1 C.B CON301
TO PN801
D802
D801
S704, D702 REC/REC MUTE
S703 SYNC DUB NORM/HIGH
S702 REV MODE (DECK2)
S701 DOLBY NR
FROM A MAIN C.B CN702
W701
CN701
B FRONT-1 C.B

# SCHEMATIC DIAGRAM (MAIN : FX-NH1000)


A MAIN C.B
B FRONT-1 C.B
C FRONT-2 C.B
D HEAD-1 C.B
E HEAD-2 C.B
F DECK C.B
TO AMPLIFIER (W601)
W601
COUNTER
I/O-SERIAL
VM
D-GND
OUT-L
OUT-R
A-GND
IN-R
IN-L
Q601 2SC1815 GR
VCC POWER SUPPLY
Q602 2SC1815 GR
+5V POWER SUPPLY
IC601 M38503M4-062FP
MICRO COMPUTER
Q609, 610 LEVEL SHIFT SW
WHEN RECORDING TYPE (NORM) :6.1V TYPE (CrO2) :8.6V
Q358, 359 BIAS OSC
Q357 KTC3198 GR
BIAS OSC SW
SFR351, 352 REC/PB FREQ RESPONSE ADJ
Q351, 353, 354, 355, 360 PB/REC SW
SFR301~304 PB LEVEL ADJ
IC301 HA12211 REC/PB AMP
IC302 CXA1553P DOLBY NR
SFR305, 306 PB/REC SENS ADJ
DECK OUT
TP1 (RCH)
TP2 (LCH)
GND
DOLBY ON:0
DOLBY OFF:4.7
Q606 RT1P141C MUTE DRIVER
Q607, 608 MUTE SW
Q501 2SA1296 GR CURRENT DRIVE SW
Q504 RT1N141C MOTOR SW
Q502 2SA1362 GR
Q503 2SA1362 GR
Q506 RT1N141C HSP SW
Q501, 502 SOLENOID DRIVER
Q605 RT1N141C SOL2 SW
Q604 RT1N141C SOL1 SW
Q802 RT1N141C DIMMER SW
Q801 RT1N141C POWER SW
POWER ON: +5V
Q381, 382 MS LEVEL DET
D801, 802: CASSETTE BACK LIGHT
M1 (DECK MOTOR)
Q1 2SA933S SPEED CONTROL
SFR1 3.3k
TAPE SPEED ADJ.
S701 DOLBYNR
S702 REC MODE (DECK2)
S703 SYNC DUB NORM/HIGH
S704 REC/REC MUTE
S701~704 SW, TACT TSTA-2
D702 LED, SEL 6215S RED
S711~715 SW, TACT TSTA-2
S711 II PAUSE
S712 ◀◀/I◀◀ MS
S713 ◀PLAY
S714 ▶▶I/▶▶ MS
S715 ■ STOP
D711~713 LED, SLP7118C-51-S-T1
SIGNAL:
:PB
:REC

*1, *2 VOLTAGE

| MODE | *1 | *2 |
|---|---|---|
| STOP | 2.6V | 2.6V |
| 2DECK PLAY | 2.6 | 4.7 |
| 2DECK REC | 0 | 0 |
| 1DECK → 2DECK DUBB | 4.7V | 2.6 |
| 2DECK PAUSE | 2.6 | 0 |

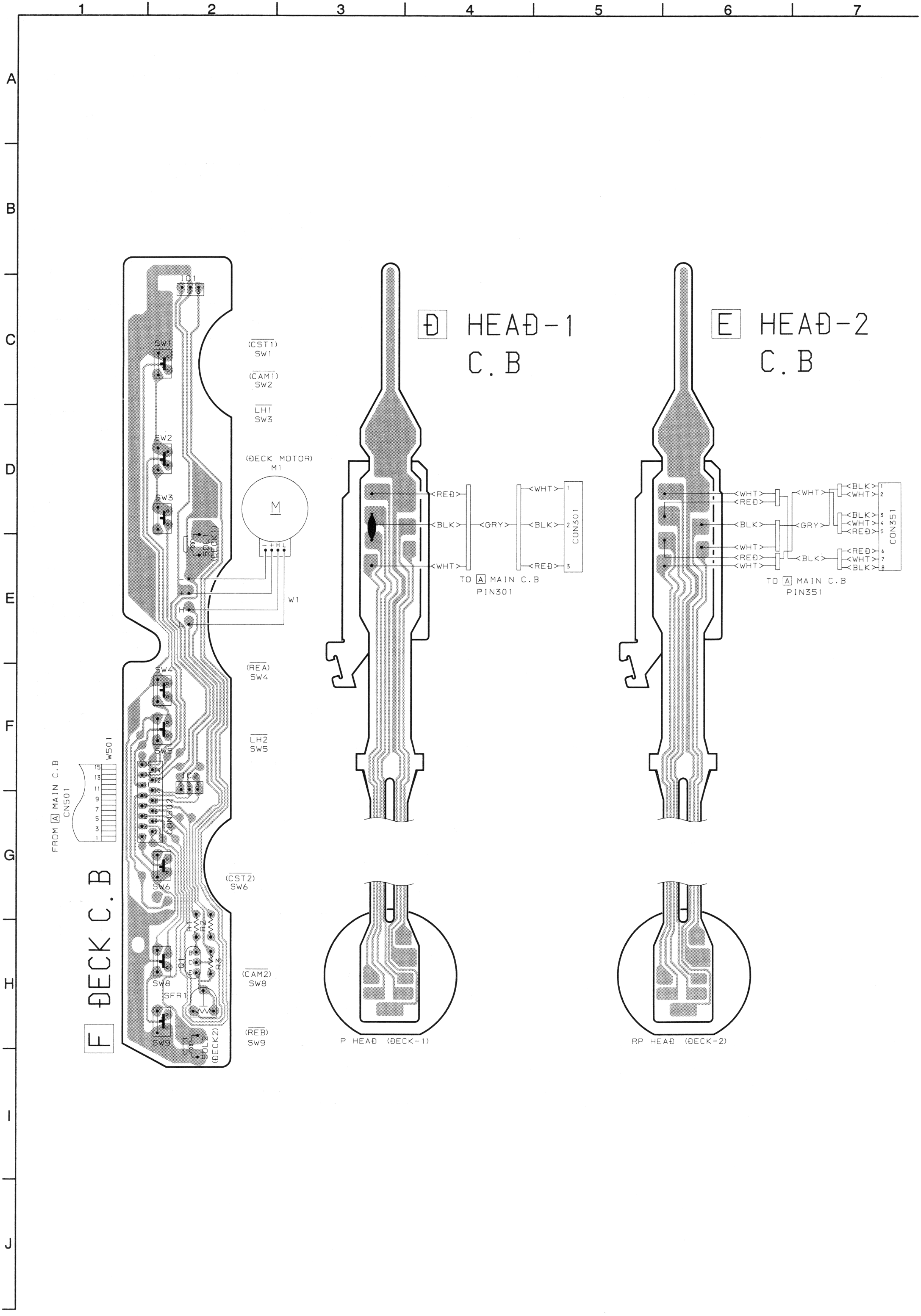
*3 VOLTAGE

| MODE | |
|---|---|
| NORM | 4.8 |
| DOLBY NR | 0 |
| REV | 1.3 |
| DUBB | 2.3 |
| REC | 3.4 |

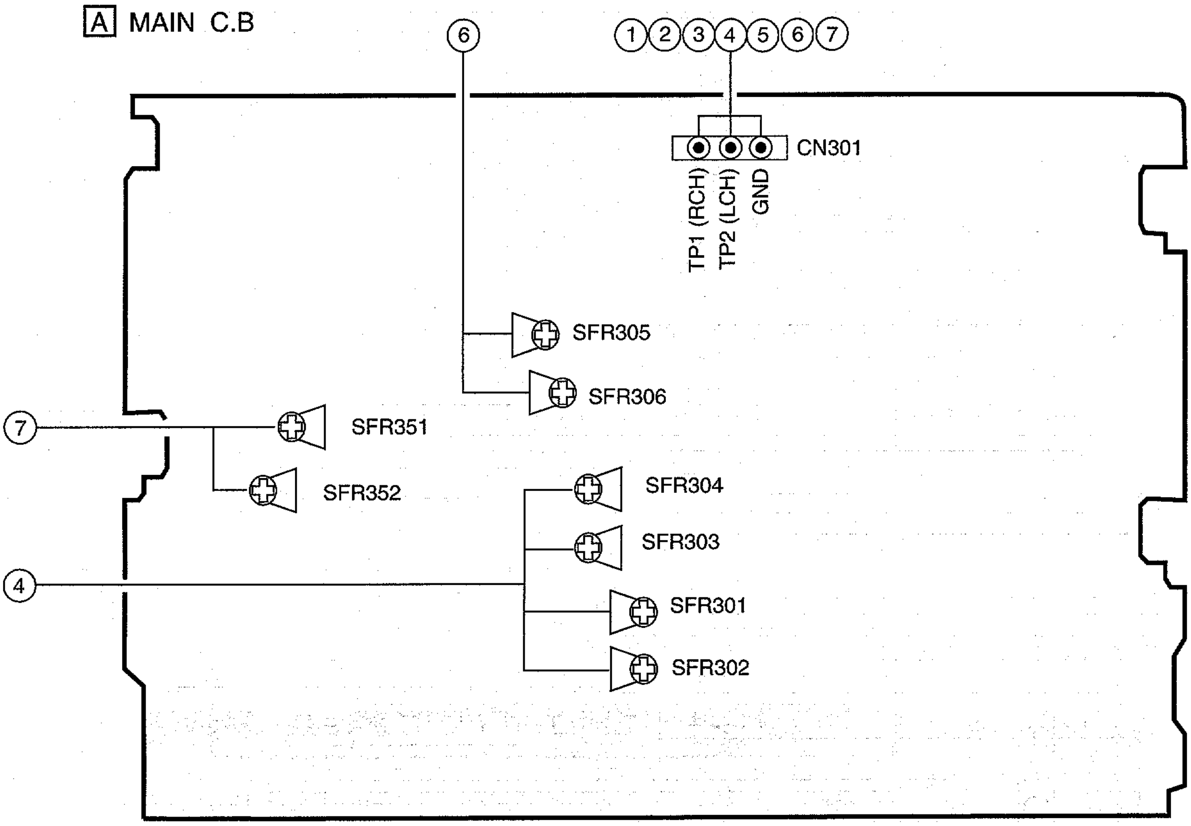
*4 VOLTAGE

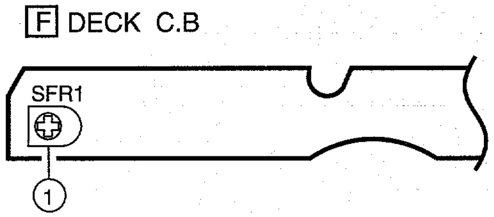
| MODE | |
|---|---|
| NORM | 4.8 |
| STOP | 3.9 |
| F.FWD | 2.9 |
| PLAY | 1.9 |
| REV | 1.0 |
| PAUSE | 0 |

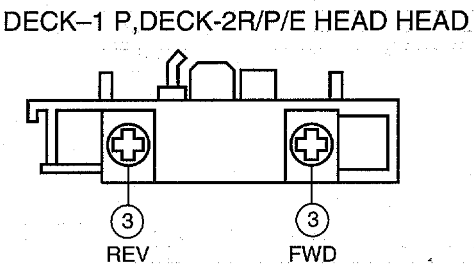
# WIRING – 2 (DECK : FX-NH1000)


1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
I
J
F DECK C.B
IC1
SW1
SW2
SW3
SOL1 (DECK1)
SW4
SW5
IC2
CON302
SW6
R1
R2
Q1
B
C
E
R3
SW8
SFR1
SW9
SOL2 (DECK2)
(CST1) SW1
(CAM1) SW2
LH1 SW3
(DECK MOTOR) M1
M
– + H L
W1
(REA) SW4
LH2 SW5
(CST2) SW6
(CAM2) SW8
(REB) SW9
FROM A MAIN C.B CN501
W501
15
13
11
9
7
5
3
1
D HEAD-1 C.B
<RED>
<BLK>
<WHT>
<GRY>
<WHT>
<BLK>
<RED>
1
2
3
CON301
TO A MAIN C.B PIN301
P HEAD (DECK-1)
E HEAD-2 C.B
<WHT>
<RED>
<BLK>
<WHT>
<RED>
<WHT>
<WHT>
<GRY>
<BLK>
<BLK>
<WHT>
<BLK>
<WHT>
<RED>
<RED>
<WHT>
<BLK>
1
2
3
4
5
6
7
8
CON351
TO A MAIN C.B PIN351
RP HEAD (DECK-2)

# ADJUSTMENT (FX-NH1000)







## < DECK SECTION >

1. Tape Normal Speed Adjustment (DECK1, DECK2)
Settings : • Test tape : TTA–100 (Tape center)
• Test point : TP1 (Rch), TP2 (Lch)
• Adjustment location : SFR1
Method : Play back the test tape and adjust SFR1 so that the test point becomes 3000Hz ± 5Hz(FWD) Then check REV speed is 3000Hz ± 45Hz.

2. High Speed Check (DECK1, DECK2)
Settings : • Test tape : TTA–100 (Tape center)
• Test point : TP1 (Rch), TP2 (Lch)
Method : After normal speed adjustment, play back (High speed) the test tape. Then check tape speed is 6000Hz ±400Hz (FWD).

3. Head Azimuth Adjustment (DECK1, DECK2)
Settings : • Test tape : TTA–300
• Test point : TP1(Rch), TP2 (Lch)
• Adjustment location : Head azimuth adjustment screw
Method : Play back the 10kHz signal of the test tape and adjust screw so that the output becomes maximum. Next, perform on each FWD PLAY and REV PLAY mode.

4 PB Sensitivity Adjustment (DECK1, DECK2)
Settings : • Test tape : TTA–200
• Test point : TP1 (Rch), TP2 (Lch)
• Adjustment location : SFR301 (DECK1, Lch)
SFR302 (DECK1, Rch)
SFR303 (DECK2, Lch)
SFR304 (DECK2, Rch)
Method : Play back the test tape and adjust SFRs so that the output level of the test point becomes 245mV (DECK2), 260mV (DECK1).

5. PB Frequency Response Check (DECK1, DECK2)
Settings : • Test tape : TTA–300
• Test point : TP1 (Rch), TP2 (Lch)
Method : Play back the 315Hz and 10kHz signals of the test tape and check that the output ratio of the 10kHz signal with respect to that of the 315Hz signal is 0dB .
Next, check that the Lch and Rch difference level of 10kHz signal is less than 2dB.

6. REC/PB Sensitivity Adjustment (DECK2)
Settings : • Test tape : TTA–602
• Test point : TP1 (Rch), TP2 (Lch)

- Input signal : 1kHz (LINE IN)
- Adjustment location : SFR305 (Lch)
  SFR306 (Rch)

Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at the TP1, TP2 becomes 0dB (17mV). Record and play back the 1kHz signals and adjust SFRs so that the output is 0dB ± 0.5dB.

7. REC/PB Frequency Response Adjustment (DECK2)

Settings :
- Test tape : TTA-602
- Test point : TP6 (Lch), TP5 (Rch)
- Input signal : 1kHz / 10kHz (LINE IN)
- Adjustment location : SFR351 (Lch)
  SFR352 (Rch)

Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at the TP1, TP2 becomes 0dB (17mV). Record and play back the 1kHz and 10kHz signals and adjust SFRs so that the output level of the 10kHz signals becomes 0dB ± 0.5dB with respect to that of the 1kHz signal.

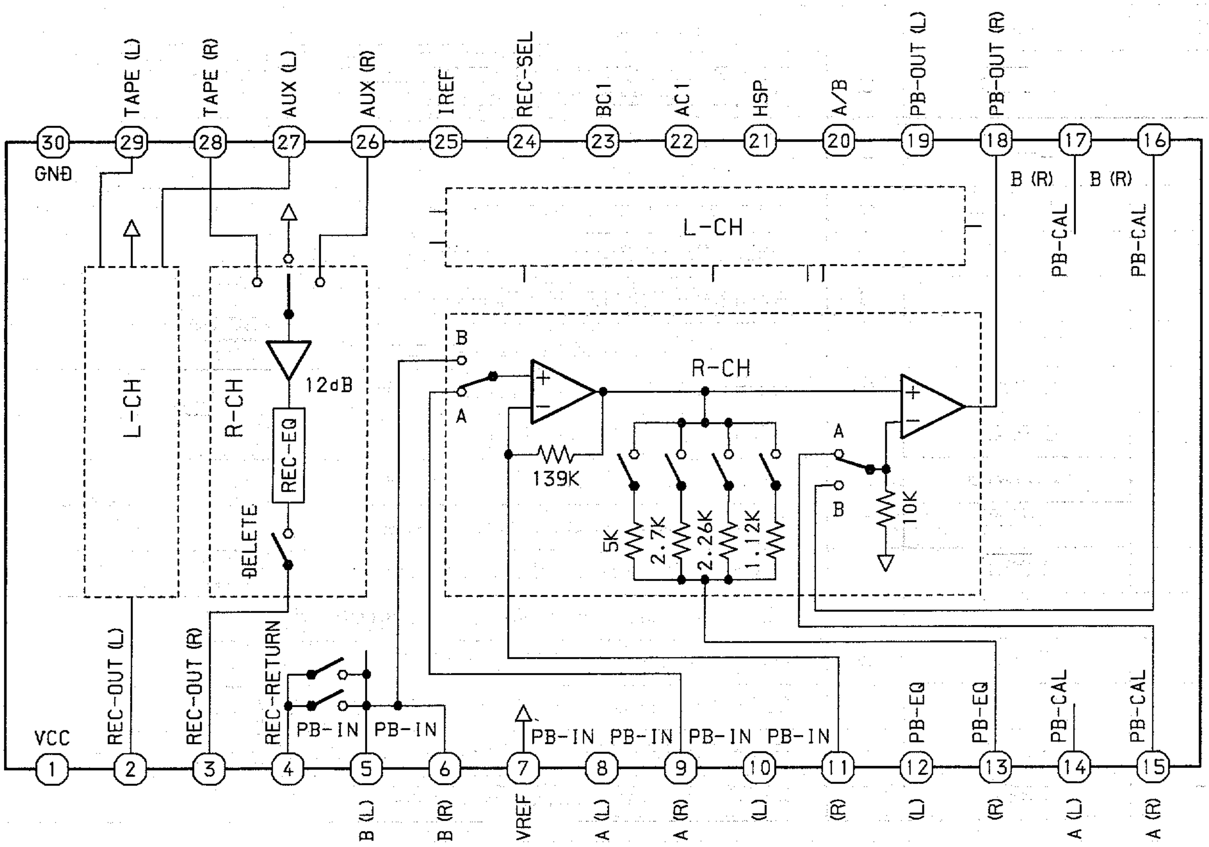
## PRACTICAL SERVICE FIGURE (FX-NH1000)

### <DECK SECTION>

| | |
|---|---|
| Tape speed : | 3000Hz ± 45Hz |
| Wow & flutter : | Less than 0.21% (W.R.M.S DECK 1, 2) |
| Pinch roller pressure : | 270 ~ 330g (FWD, REV) |
| Take-up torque : | 30 ~ 55g-cm (FWD, REV) |
| F.F & REW torque : | 75 ~ 180g-cm (FWD)<br>75 ~ 130g-cm (REW) |
| Back tension : | 3 ± 4g-cm (DECK 1, 2) |
| PB Output level : | 230mV ± 1dB |
| REC/PB Output level : | 0dB ± 1dB (NORMAL, CrO2) |
| Distortion (REC/PB) : | Less than 2.0% (NORMAL, CrO2) |
| Noise level (PB) : | Less than 1.8mV<br>(NORMAL, ALL FUNCTION OFF) |
| Noise level (REC/PB) : | Less than 2.0mV<br>(NORMAL, ALL FUNCTION OFF) |
| Erasing ratio : | More than 60dB (at 125Hz, 10VU) |
| Test tape : | NORMAL : TTA-602<br>CrO2 : TTA-615 |

## IC BLOCK DIAGRAM – 1 (FX-NH1000)

### IC, HA12211



TAPE (L)
TAPE (R)
AUX (L)
AUX (R)
IREF
REC-SEL
BC1
AC1
HSP
A/B
PB-OUT (L)
PB-OUT (R)
30
29
28
27
26
25
24
23
22
21
20
19
18
17
16
GND
B (R)
B (R)
PB-CAL
PB-CAL
L-CH
L-CH
R-CH
12dB
REC-EQ
DELETE
B
A
R-CH
139K
5K
2.7K
2.26K
1.12K
A
B
10K
VCC
REC-OUT (L)
REC-OUT (R)
REC-RETURN
PB-IN
PB-IN
PB-IN
PB-IN
PB-IN
PB-IN
PB-EQ
PB-EQ
PB-CAL
PB-CAL
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
B (L)
B (R)
VREF
A (L)
A (R)
(L)
(R)
(L)
(R)
A (L)
A (R)

# IC DESCRIPTION

IC, M38503M4-062FP

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1 | VCC | – | IC power supply. |
| 2 | V-REF | – | Connected to VCC. |
| 3 | AVSS | – | Connected to GND. |
| 4 | NC | – | Not connected. |
| 5 | I-$\overline{\text{AUTO1}}$ | I | Input of DECK 1 reel platform pulse. |
| 6 | I-$\overline{\text{AUTO2}}$ | I | Input of DECK 2 reel platform pulse. |
| 7 | O-PB-SEL | O | Three-state output. *2 |
| 8 | O-REC-SEL | O | |
| 9 | NC | O | Not connected. |
| 10 | O-$\overline{\text{NR}}$ | O | When DOLBY-B NR is ON: "L". |
| 11 | O-BIAS | O | BIAS control. |
| 12 | O-LMT | O | Output LINE MUTE. When MUTE: "H". |
| 13 | O-COUNTER | O | Output tape counter data. |
| 14 | SERIAL I/O | I/O | Serial I/O terminal. |
| 15 | CN VSS | – | Connected to GND. |
| 16 | O-B BEAT | O | For bias beat changeover. When in operation: "H". Initial: "L". |
| 17 | $\overline{\text{O-C SHIFT}}$ | O | While clock shift: "L" |
| 18 | $\overline{\text{RESET}}$ | I | RESET signal input pin. |
| 19 | XIN | I | Crystal oscillation pin. (8MHz) |
| 20 | XOUT | O | Crystal oscillation pin. (8MHz) |
| 21 | VSS | – | Connected to GND. |
| 22 | D-$\overline{\text{FWD}}$ | O | When Power is ON: "L" under STOP status. When FWD operates: flashing ( "L" ↔ "H" repeated). While FF: fast flashing. |
| 23 | D-$\overline{\text{RVS}}$ | O | When Power is ON: "L" under STOP status. When RVS operates: flashing ( "L" ↔ "H" repeated). While REW: fast flashing. |
| 24 | D-$\overline{\text{PAUSE}}$ | O | When Power is ON: "L" under STOP status. While PAUSE: flashing ( "L" ↔ "H" repeated). |
| 25 | D-$\overline{\text{RES}}$ | O | While REC, DUBBING: "L". While REC, MUTE: flashing. |
| 26 | D-$\overline{\text{NR}}$ | O | When NR is ON: "L". (Not Connected) |
| 27 | O-MOTOR | O | When MOTOR is in operation or power on (500msec): "H". |
| 28 | O-SOL2 | O | When DECK 2 solenoid is in operation: "H". |
| 29 | O-SOL1 | O | When DECK 1 solenoid is in operation: "H". |
| 30 | O-POWER | O | When POWER of AMPLIFIER is ON: "H" |
| 31 | I-$\overline{\text{CST2}}$ | I | DECK 2 cassette detection. When cassette exists: "L". |
| 32 | I-$\overline{\text{REB}}$ | I | DECK 2 side B REC enable. When recordable: "L". |
| 33 | I-$\overline{\text{CAM2}}$ | I | DECK 2 mechanism cam. When switch is ON: "L". |
| 34 | O-HSP | O | Output high speed signal. High speed: "L". |
| 35 | I-$\overline{\text{CAM1}}$ | I | DECK 1 mechanism cam. When switch is ON: "L". |
| 36 | I-$\overline{\text{CST1}}$ | I | DECK 1 cassette detection. When cassette exists:"L". |
| 37 | I-$\overline{\text{REA}}$ | I | DECK 2 side A REC enable. When recordable: "L" |

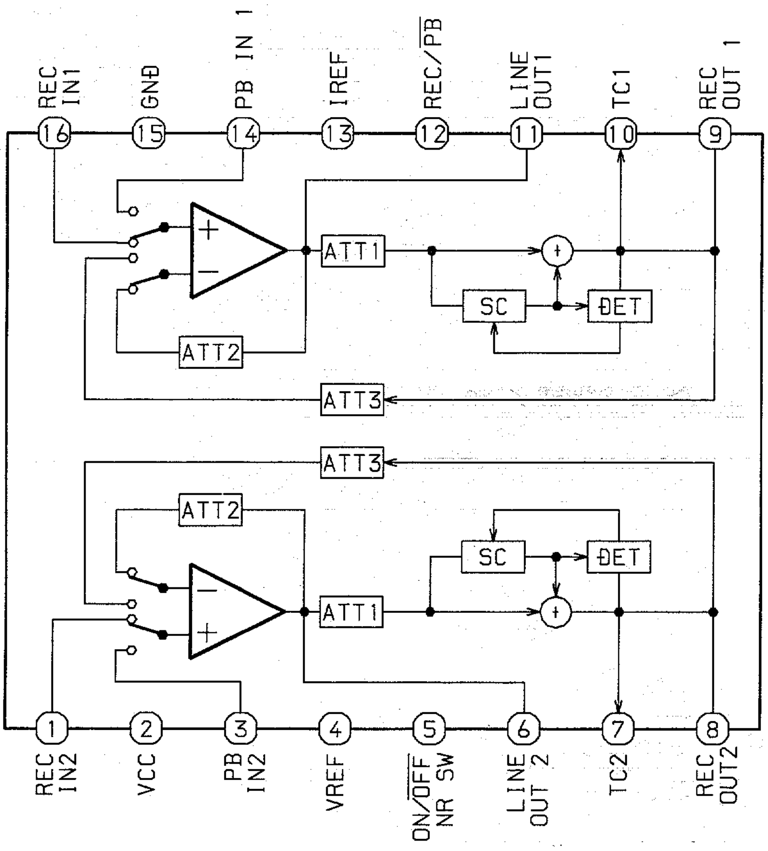
| | O-REC-SEL | O-PB-SEL |
|---|---|---|
| L | TAPE | DECK 2 REC |
| H | REC IN | DECK 2 PB |
| Hi-Z | REC MUTE | DECK 1 PB |

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 38 | O-$\overline{\text{DIMMER}}$ | O | Ordinarily “H”. When AMPLIFIER is in DIMMER 1 or 2 mode: “L”. |
| 39 | I-KEY2 | I | KEY input 2. AD input. |
| 40 | I-KEY1 | I | KEY input 1. AD input. |
| 41 | I-$\overline{\text{MS}}$ | I | MS input. AD input. |
| 42 | I-$\overline{\text{HOLD}}$ | I | System power supply monitor. AD input. |

*PINs 22, 23, 24, 25, and 26 should be “H” when AMPLIFIER is in DIMMER 2 mode.

## IC BLOCK DIAGRAM – 2 (FX-NH1000)

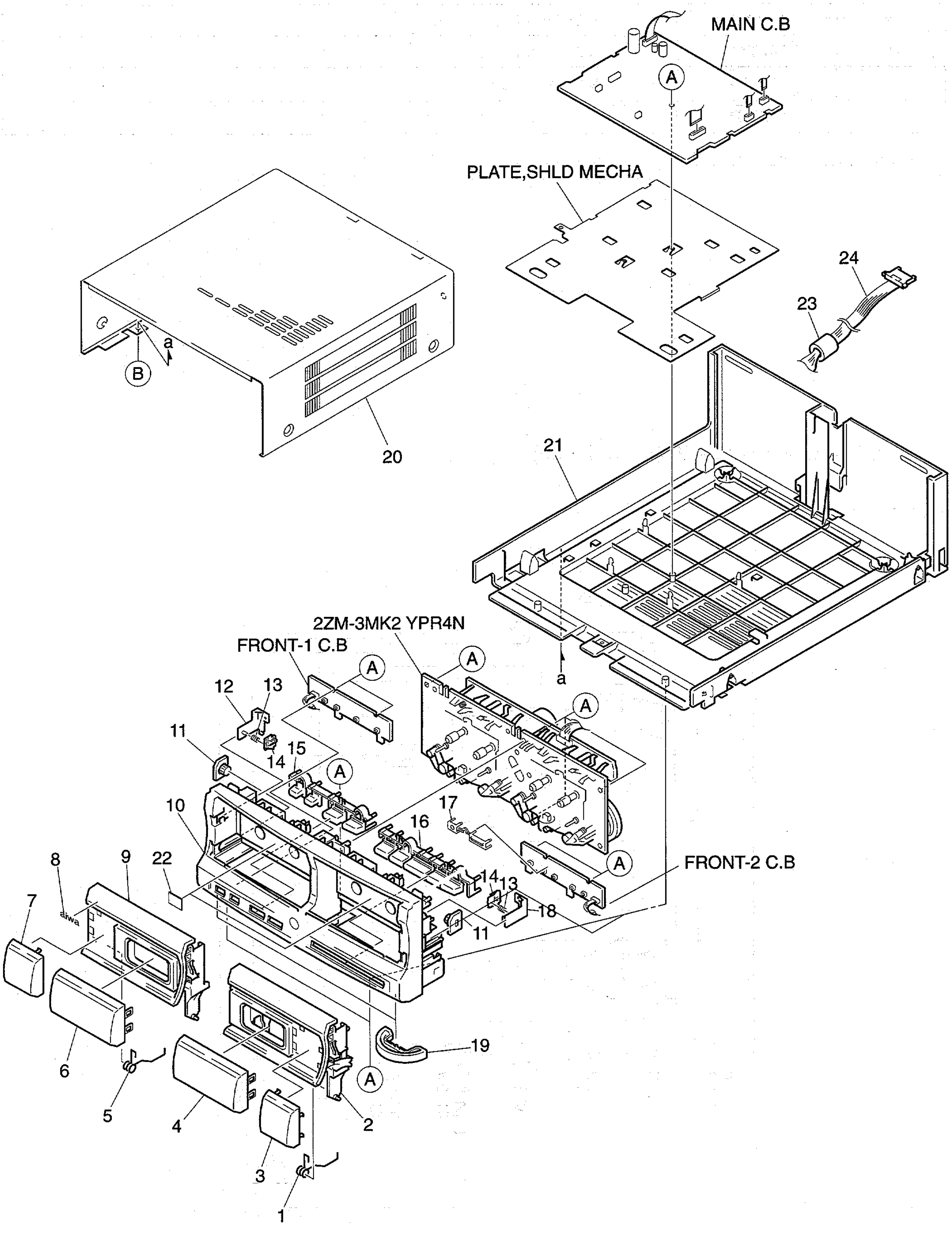
IC, CXA1553P



REC IN1
GND
PB IN 1
IREF
REC/$\overline{\text{PB}}$
LINE OUT1
TC1
REC OUT 1
16
15
14
13
12
11
10
9
+
−
ATT1
ATT2
ATT3
SC
DET
ATT3
ATT2
SC
DET
−
+
ATT1
1
2
3
4
5
6
7
8
REC IN2
VCC
PB IN2
VREF
ON/$\overline{\text{OFF}}$ NR SW
LINE OUT 2
TC2
REC OUT2

ATT: Attenuator
SC: Side Chain
DET: Detector

# MECHANICAL EXPLODED VIEW 1 / 1 (FX-NH1000)

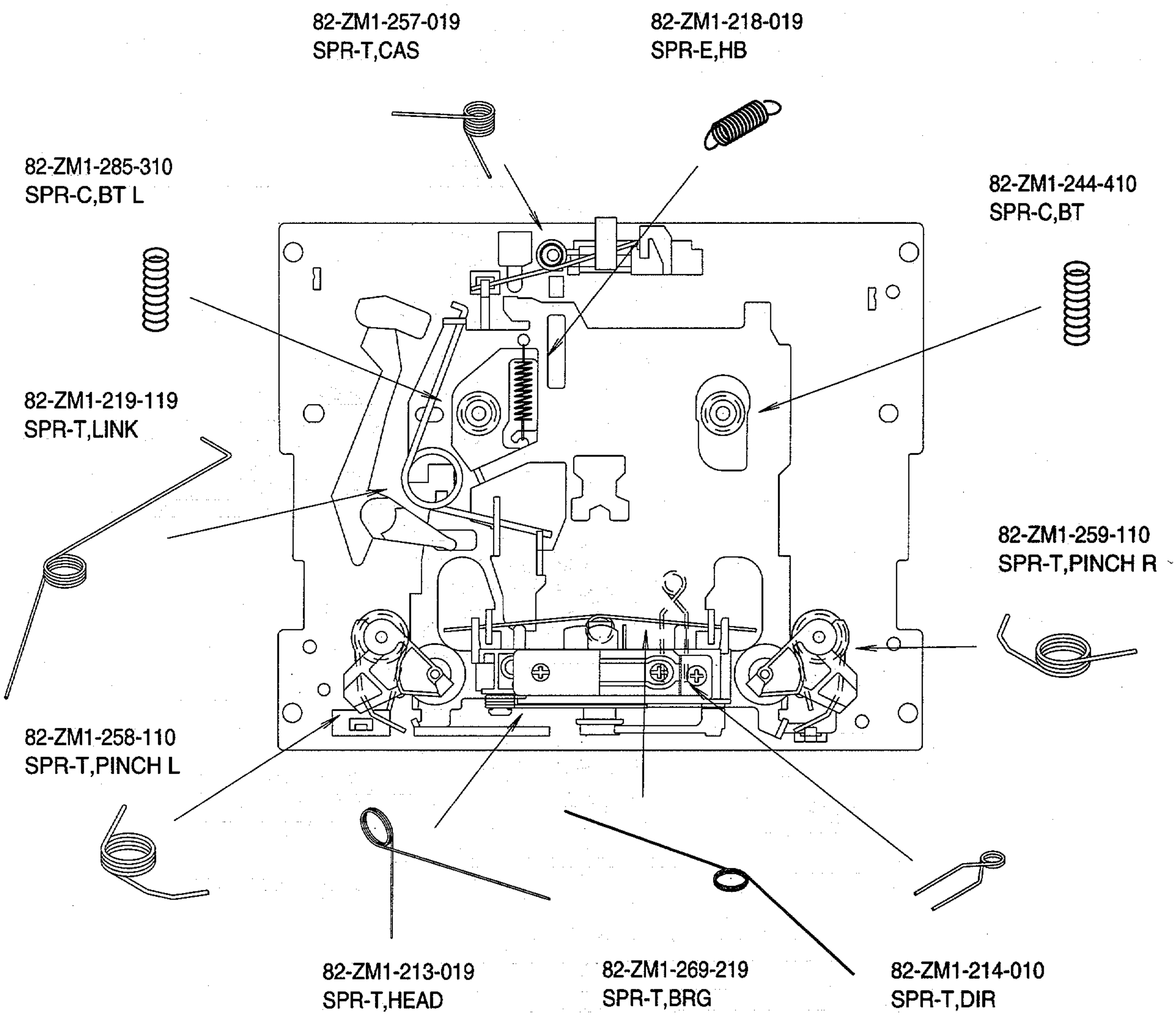

MAIN C.B
A
PLATE,SHLD MECHA
24
23
a
B
20
21
2ZM-3MK2 YPR4N
FRONT-1 C.B
A
A
a
12
13
A
11
14
15
A
10
17
16
8
9
22
A
FRONT-2 C.B
7
aiwa
14
13
18
11
19
6
A
5
4
2
3
1

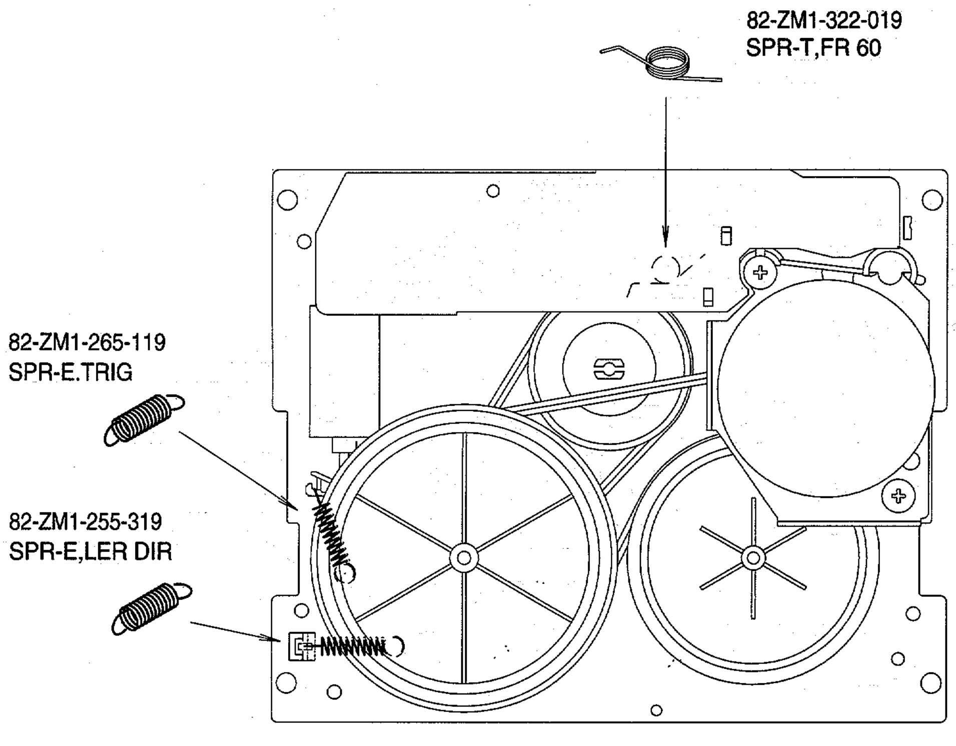
# MECHANICAL PARTS LIST 1 / 1 (FX-NH1000)

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

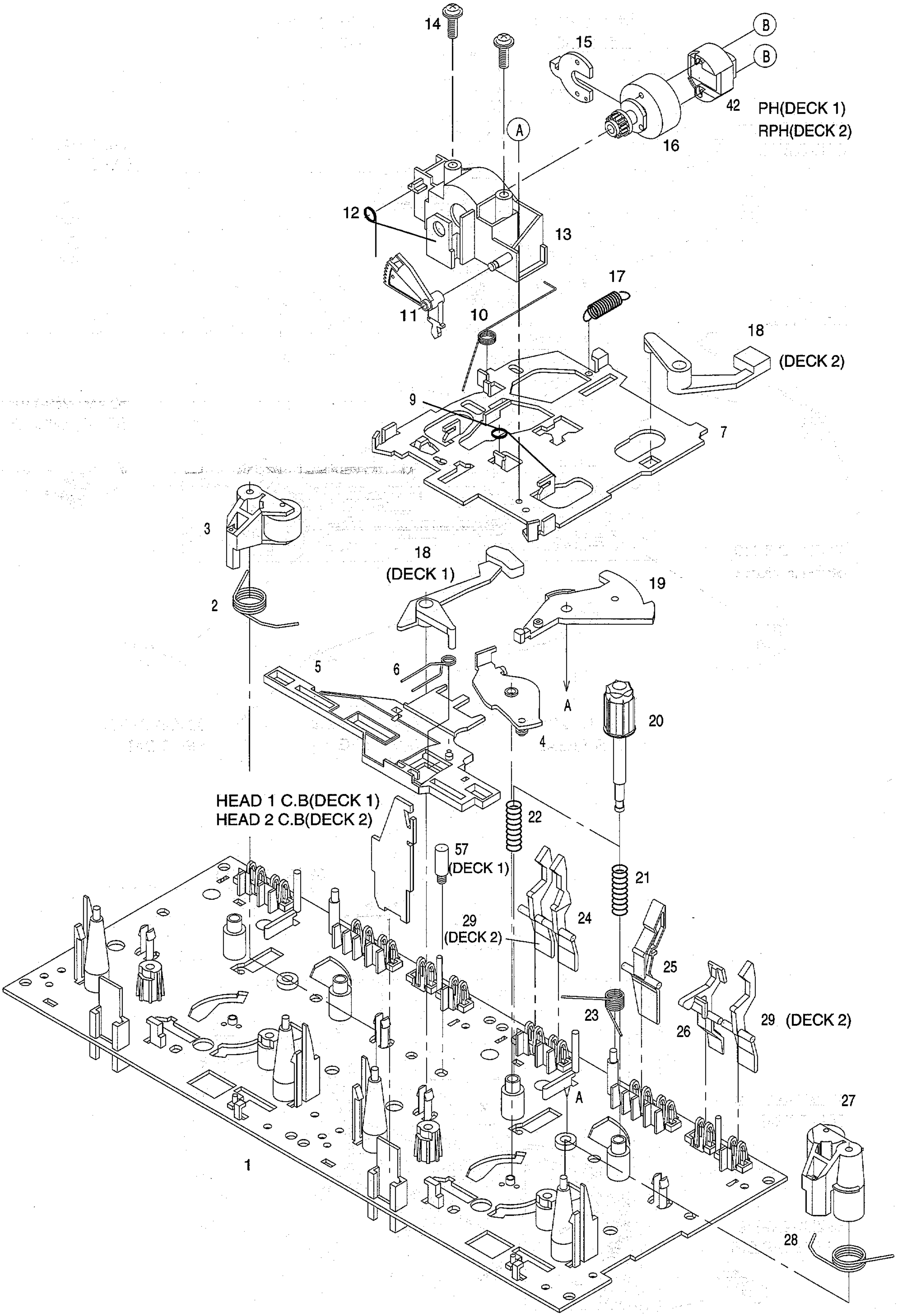
| REF. NO. | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| 1 | 82-NF5-219-010 | | SPR-T,EJECT 2 (SIN) |
| 2 | 88-SW1-004-010 | | BOX,CASS 2 |
| 3 | 88-SW1-020-010 | | PLATE,CASS 2 |
| 4 | 88-SW1-006-010 | | WINDOW,CASS 2 |
| 5 | 82-NF5-218-010 | | SPR-T,EJECT 1 (SIN) |
| 6 | 88-SW1-005-010 | | WINDOW,CASS 1 |
| 7 | 88-SW1-019-010 | | PLATE,CASS 1 |
| 8 | 87-B00-002-010 | | BADGE,AIWA 30 ABS SIL |
| 9 | 88-SW1-003-010 | | BOX,CASS 1 |
| 10 | 88-SW1-001-010 | | CABI,FR |
| 11 | 87-NF8-220-010 | | DMPR,150 |
| 12 | 87-NF4-216-010 | | HLDR,LOCK 1 |
| 13 | 86-NF9-224-010 | | SPR-C,LOCK |
| 14 | 82-NF5-229-010 | | PLATE,LOCK |
| 15 | 88-SW1-015-010 | | KEY,ASSY REC |
| 16 | 88-SW1-014-010 | | KEY,ASSY OPE |
| 17 | 88-SW1-201-010 | | GUIDE,LED OPE |
| 18 | 87-NF4-217-010 | | HLDR,LOCK 2 |
| 19 | 88-SU1-014-010 | | RING,FOOT |
| 20 | 88-SW1-002-010 | | CABI,STEEL |
| 21 | 88-SW1-023-110 | | CABI,REAR YS<YS> |
| 21 | 88-SW1-026-110 | | CABI,REAR YSN<YSN> |
| 22 | 81-532-080-010 | | LABEL,CASS. COMPT |
| 23 | 87-003-317-010 | | F-BEAD,15-25-15 E251 |
| 24 | 88-SW1-607-010 | | CORD,FG9P |
| A | 87-067-703-010 | | TAPPING SCREW, BVT2+3-10 |
| B | 87-067-633-010 | | BVT2+3-8 W/O SLOT |

# SPRING APPLICATION POSITION (FX-NH1000)

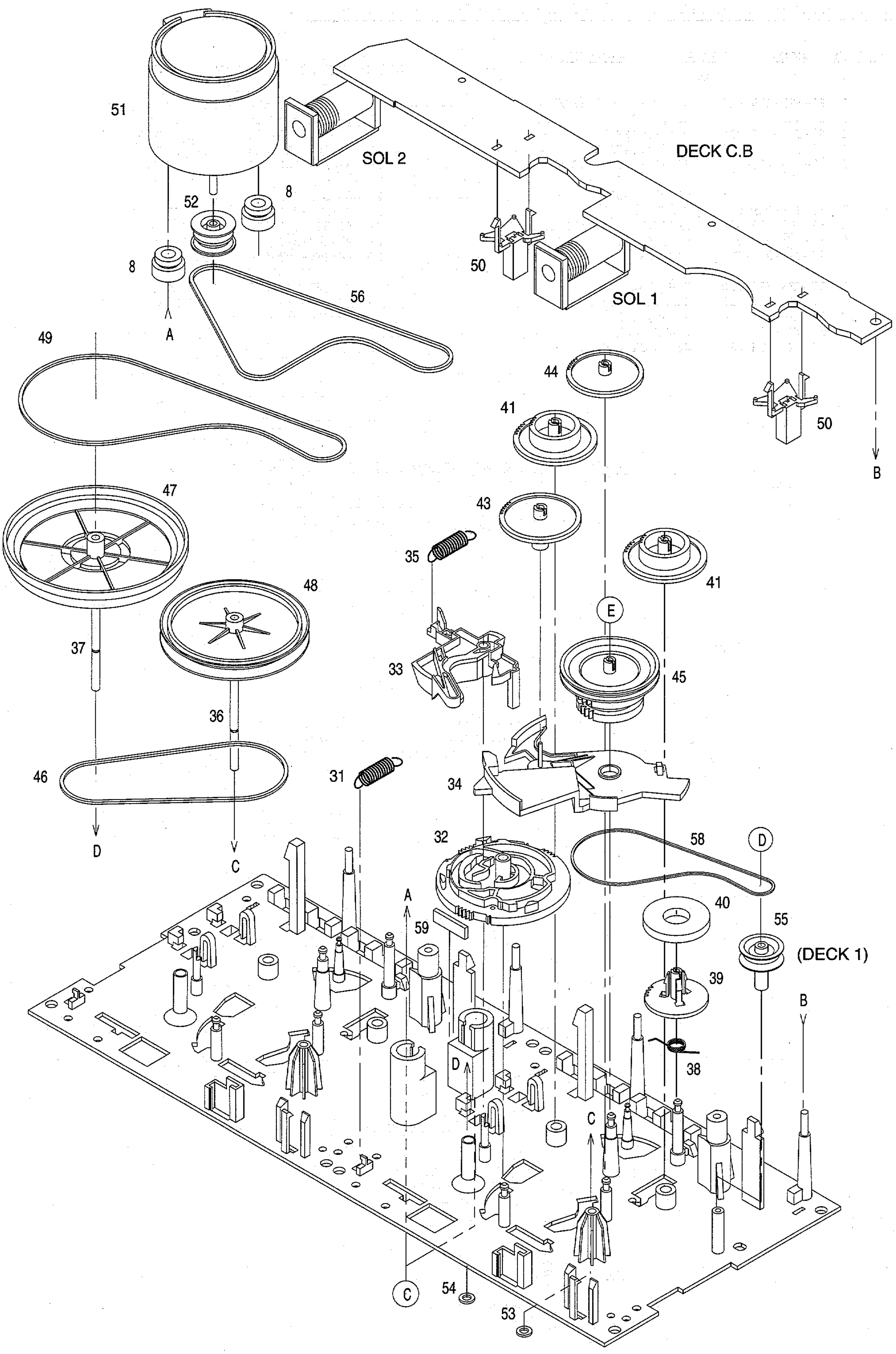

82-ZM1-257-019
SPR-T,CAS
82-ZM1-218-019
SPR-E,HB
82-ZM1-285-310
SPR-C,BT L
82-ZM1-244-410
SPR-C,BT
82-ZM1-219-119
SPR-T,LINK
82-ZM1-259-110
SPR-T,PINCH R
82-ZM1-258-110
SPR-T,PINCH L
82-ZM1-213-019
SPR-T,HEAD
82-ZM1-269-219
SPR-T,BRG
82-ZM1-214-010
SPR-T,DIR


82-ZM1-322-019
SPR-T,FR 60
82-ZM1-265-119
SPR-E.TRIG
82-ZM1-255-319
SPR-E,LER DIR

# TAPE MECHANISM EXPLODED VIEW 1 / 2 (FX-NH1000)


14
15
Ⓑ
Ⓑ
42
PH(DECK 1)
RPH(DECK 2)
Ⓐ
16
12
13
17
11
10
18
(DECK 2)
9
7
3
18
(DECK 1)
19
2
5
6
A
20
4
HEAD 1 C.B(DECK 1)
HEAD 2 C.B(DECK 2)
22
57
(DECK 1)
21
29
(DECK 2)
24
25
23
26
29 (DECK 2)
A
27
1
28

# TAPE MECHANISM EXPLODED VIEW 2 / 2 (FX-NH1000)


51
SOL 2
DECK C.B
52
8
8
50
SOL 1
56
A
49
44
41
50
B
47
43
35
41
48
E
37
33
45
36
46
31
34
D
C
32
58
D
A
59
40
55
(DECK 1)
39
B
38
D
C
C
54
53

# TAPE MECHANISM PARTS LIST 1 / 1 (FX-NH1000)

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

| REF. NO. | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| 1 | 82-ZM3-301-519 | | CHAS ASSY,M2 |
| 2 | 82-ZM1-258-110 | | SPR-T,PINCH L |
| 3 | 82-ZM1-341-110 | | LVR ASSY,PINCH L2 |
| 4 | 82-ZM1-333-010 | | PLATE,LINK 2 |
| 5 | 82-ZM1-266-11K | | LVR,DIR |
| 6 | 82-ZM1-214-010 | | SPR-T,DIR |
| 7 | 82-ZM1-206-81K | | CHAS,HEAD |
| 8 | 82-ZM3-307-019 | | CUSH-G,DIA3.7-8-3.2 |
| 9 | 82-ZM1-269-219 | | SPR-T,BRG |
| 10 | 82-ZM1-219-119 | | SPR-T,LINK |
| 11 | 82-ZM1-210-119 | | GEAR,H T |
| 12 | 82-ZM1-213-019 | | SPR-T,HEAD |
| 13 | 82-ZM1-207-619 | | GUIDE,TAPE |
| 14 | 86-ZM4-206-010 | | S-SCREW,AZIMUTH |
| 15 | 82-ZM1-314-119 | | PLATE,HEAD |
| 16 | 82-ZM1-208-119 | | HLDR,HEAD |
| 17 | 82-ZM1-218-019 | | SPR-E,HB |
| 18 | 82-ZM1-263-110 | | LVR,EJECT L (DECK 1) |
| 18 | 82-ZM1-264-010 | | LVR,EJECT R (DECK 2) |
| 19 | 82-ZM1-222-21K | | LVR,PLAY |
| 20 | 82-ZM1-217-319 | | REEL TABLE |
| 21 | 82-ZM1-244-510 | | SPR-C,BT |
| 22 | 82-ZM1-285-310 | | SPR-C,BT L |
| 23 | 82-ZM1-257-019 | | SPR-T,CAS |
| 24 | 82-ZM1-241-319 | | LVR,MC |
| 25 | 82-ZM1-242-019 | | LVR,CAS |
| 26 | 82-ZM1-243-019 | | LVR,STOP |
| 27 | 82-ZM1-344-110 | | LVR ASSY,PINCH R2 |
| 28 | 82-ZM1-259-110 | | SPR-T,PINCH R |
| 29 | 82-ZM1-240-11K | | LVR,REC (DECK 2) |
| 31 | 82-ZM1-255-319 | | SPR-E,LVR DIR |
| 32 | 82-ZM3-305-01K | | GEAR,CAM M2 |
| 33 | 82-ZM1-227-21K | | LVR,TRIG |
| 34 | 82-ZM3-306-11K | | LVR,FR M2 |
| 35 | 82-ZM1-265-119 | | SPR-E,TRIG |
| 36 | 82-ZM1-236-019 | | CAPSTAN N 2-41.5 |
| 37 | 82-ZM1-239-019 | | CAPSTAN N 2.2-41.7 |
| 38 | 82-ZM1-322-019 | | SPR-T,FR60 |
| 39 | 82-ZM1-220-219 | | GEAR,IDLER |
| 40 | 82-ZM3-616-019 | | RING MAGNET 4 |
| 41 | 82-ZM1-216-31K | | GEAR,REEL |
| 42 | 87-A90-319-010 | | HEAD,PH HADKH2 FPC |
| 42 | 87-A90-320-010 | | HEAD,RPH HADKH5 FPC |
| 43 | 82-ZM1-225-21K | | GEAR,FR |
| 44 | 82-ZM1-226-019 | | GEAR,REW |
| 45 | 82-ZM3-333-310 | | SLIP DISK ASSY 2 |
| 46 | 82-ZM1-338-010 | | BELT FR4 |
| 47 | 82-ZM1-349-110 | | FLY-WHL,R W(DECK 2) |
| 47 | 82-ZM3-338-110 | | FLY-WHL,R3 W(DECK 1) |
| 48 | 82-ZM1-348-010 | | FLY-WHL,L W(DECK 2) |
| 48 | 82-ZM1-348-010 | | FLY-WHL,L W(DECK 1) |
| 49 | 82-ZM3-329-210 | | BELT,SBU R2 |
| 50 | 82-ZM1-245-210 | | HLDR,IC |
| 51 | 87-045-347-019 | | MOT,SHU2L 70(M1) |
| 52 | 82-ZM3-221-010 | | PULLEY,MOT 2M |
| 53 | 82-ZM1-288-019 | | SH,1.63-3.2-0.5 SLT |
| 54 | 80-ZM6-243-019 | | SH,1.75-3.6-0.5 SLT |
| 55 | 82-ZM3-335-210 | | PULLEY,COUPLER M3(DECK 1) |
| 56 | 82-ZM3-337-010 | | BELT,SBU MOT 2 |
| 57 | 82-ZM3-339-010 | | SHAFT,COUPLER N3(DECK 1) |
| 58 | 86-ZM1-206-010 | | BELT,MAIN L |
| 59 | 82-ZM3-340-010 | | SH,BELT D2 |
| A | 85-ZM3-202-010 | | S-SCREW,TG |
| B | 80-ZM6-207-019 | | V+1.6-7 |
| C | 82-ZM3-318-019 | | S-SCRW MOTOR M2 |
| D | 87-B10-043-010 | | W-P,0.99-4-0.25 SLT |
| E | 82-ZM3-334-010 | | PW,2.16-6-0.4 |

MODEL NO.

# GE-NAVH1000

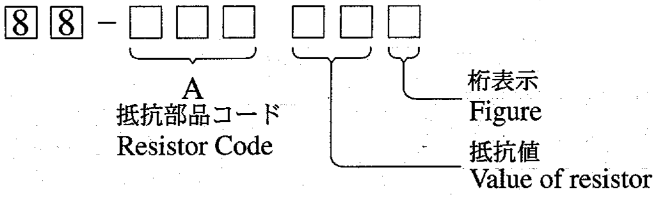
## ELECTRICAL MAIN PARTS LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

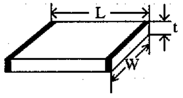
| REF. NO. | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| IC | | | |
| | 88-SU1-603-010 | | IC,LC866448W-5H57 |
| | 87-A20-083-010 | | IC,BA3835S |
| TRANSISTOR | | | |
| | 87-026-263-080 | | C-TR,RN1410 |
| | 87-A30-073-080 | | C-TR,RT1N 141C |
| DIODE | | | |
| | 87-070-136-080 | | ZENER,MTZJ5.1B |
| | 87-017-931-080 | | ZENER,MTZJ 5.6B |
| | 87-A40-470-080 | | DIODE,1SS254 |
| MAIN C.B | | | |
| C101 | 87-010-550-040 | | CAP,E 100-6.3 GAS |
| C103 | 87-010-497-040 | | CAP,E 4.7-35 GAS |
| C105 | 87-010-312-080 | | C-CAP,S 15P-50 CH |
| C106 | 87-010-320-080 | | CHIP CAP 68P |
| C107 | 87-010-316-080 | | C-CAP,S 33P-50 CH |
| C108 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C109 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C110 | 87-012-368-080 | | C-CAP,S 0.1-50 F |
| C111 | 87-015-682-040 | | CAP E 22-16 M 7L |
| C120 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C203 | 87-010-497-040 | | CAP,E 4.7-35 GAS |
| C204 | 87-012-369-080 | | C-CAP,S 0.047-50F |
| C301 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C401 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C402 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C403 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C404 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C405 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C406 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C407 | 87-012-158-080 | | C-CAP,S 390P-50 CH |
| CN101 | 87-A90-808-010 | | HLDR,WIRE 8-1.5 SD-51016 |
| FB101 | 87-008-372-080 | | FILTER, EMI BL OIRNI |
| FL201 | 88-SU1-605-010 | | FL,BJ624GK |
| L101 | 87-005-152-080 | | COIL,10UH |
| L102 | 87-005-130-080 | | COIL,10UH |
| L103 | 87-005-130-080 | | COIL,10UH |
| L104 | 87-005-152-080 | | COIL,10UH |
| LED201 | 87-017-350-080 | | LED,SEL1550CM |
| LED202 | 87-017-350-080 | | LED,SEL1550CM |
| LED203 | 87-017-350-080 | | LED,SEL1550CM |
| LED204 | 87-017-350-080 | | LED,SEL1550CM |
| LED205 | 87-017-350-080 | | LED,SEL1550CM |
| LED206 | 87-017-350-080 | | LED,SEL1550CM |
| LED207 | 87-017-350-080 | | LED,SEL1550CM |
| LED208 | 87-017-350-080 | | LED,SEL1550CM |
| LED209 | 87-017-350-080 | | LED,SEL1550CM |
| LED210 | 87-017-350-080 | | LED,SEL1550CM |
| LED211 | 87-017-350-080 | | LED,SEL1550CM |
| LED212 | 87-017-350-080 | | LED,SEL1550CM |
| LED213 | 87-070-201-080 | | LED,SLP9118C-51-S-T1 |
| LED214 | 87-070-201-080 | | LED,SLP9118C-51-S-T1 |
| LED215 | 87-070-201-080 | | LED,SLP9118C-51-S-T1 |
| LED216 | 87-070-201-080 | | LED,SLP9118C-51-S-T1 |
| LED217 | 87-070-201-080 | | LED,SLP9118C-51-S-T1 |
| LED218 | 87-070-201-080 | | LED,SLP9118C-51-S-T1 |
| LED219 | 87-070-201-080 | | LED,SLP9118C-51-S-T1 |
| LED220 | 87-070-201-080 | | LED,SLP9118C-51-S-T1 |
| S301 | 87-A90-095-080 | | SW,TACT EVQ11G04M |
| S302 | 87-A90-095-080 | | SW,TACT EVQ11G04M |
| S303 | 87-A90-894-010 | | SW,RTRY EC12E444 ENCORDER |
| S304 | 87-A90-095-080 | | SW,TACT EVQ11G04M |
| S305 | 87-A90-095-080 | | SW,TACT EVQ11G04M |
| S306 | 87-A90-095-080 | | SW,TACT EVQ11G04M |
| S307 | 87-A90-095-080 | | SW,TACT EVQ11G04M |
| S308 | 87-A90-095-080 | | SW,TACT EVQ11G04M |
| S309 | 87-A90-095-080 | | SW,TACT EVQ11G04M |
| S310 | 87-A90-095-080 | | SW,TACT EVQ11G04M |
| S311 | 87-A90-095-080 | | SW,TACT EVQ11G04M |
| S312 | 87-A90-095-080 | | SW,TACT EVQ11G04M |
| S313 | 87-A90-095-080 | | SW,TACT EVQ11G04M |
| W101 | 88-SU1-608-010 | | CORD,FG 8P |
| X101 | 87-A70-070-080 | | VIB,CER 5.76MHZ CRHF |

○チップ抵抗部品コード／CHIP RESISTOR PART CODE

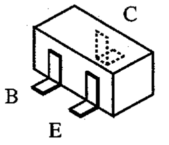
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding


8 8 - □□□ □□□ □
A
抵抗部品コード
Resistor Code
桁表示
Figure
抵抗値
Value of resistor

チップ抵抗
Chip resistor

| 容量<br>Wattage | 種類<br>Type | 許容誤差<br>Tolerance | 記号<br>Symbol | 寸法／Dimensions (mm) | | | | 抵抗コード　：A<br>Resistor Code : A |
|---|---|---|---|---|---|---|---|---|
| | | | | 外形／Form | L | W | t | |
| 1/16W | 1608 | ±5% | CJ |  | 1.6 | 0.8 | 0.45 | 108 |
| 1/10W | 2125 | ±5% | CJ | | 2 | 1.25 | 0.45 | 118 |
| 1/8W | 3216 | ±5% | CJ | | 3.2 | 1.6 | 0.55 | 128 |

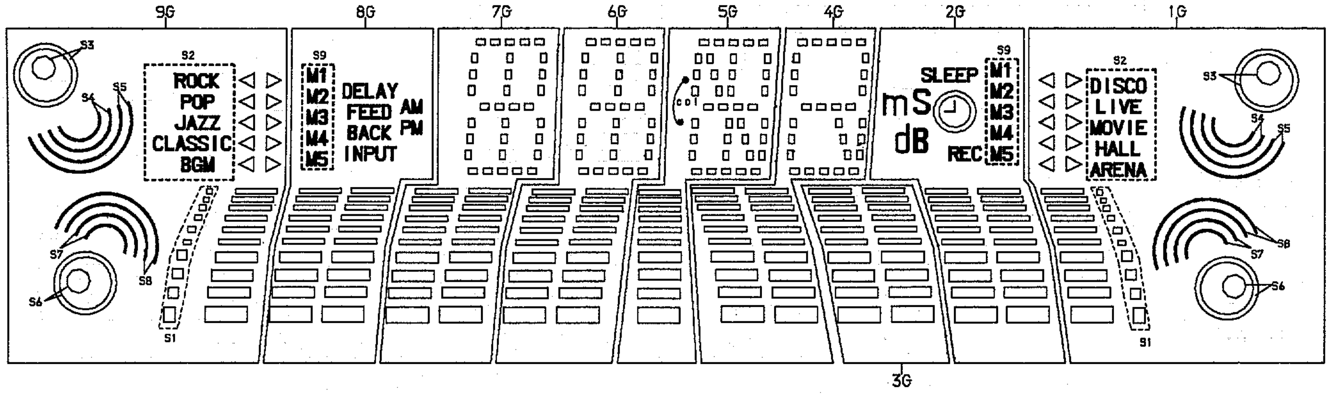
## TRANSISTOR ILLUSTRATION (GE-NAVH1000)

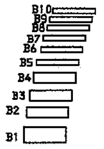


RN1410
RT1N141C

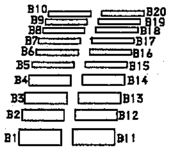
# FL (BJ624GK) GRID ASSIGNMENT & ANODE CONNECTION (GE-NAVH1000)

## GRID ASSIGNMENT

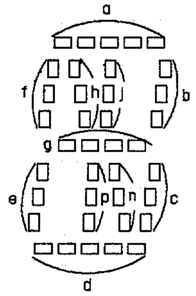

9G
8G
7G
6G
5G
4G
2G
1G
3G
S1
S2
S3
S4
S5
S6
S7
S8
S9
ROCK
POP
JAZZ
CLASSIC
BGM
M1
M2
M3
M4
M5
DELAY
FEED
BACK
INPUT
AM
PM
col
mS
dB
SLEEP
REC
DISCO
LIVE
MOVIE
HALL
ARENA


B10
B9
B8
B7
B6
B5
B4
B3
B2
B1

(9G、5G、1G)


B10
B9
B8
B7
B6
B5
B4
B3
B2
B1
B20
B19
B18
B17
B16
B15
B14
B13
B12
B11

(8G~6G、4G~2G)


a
b
c
d
e
f
g
h
j
n
p

(7G~4G)

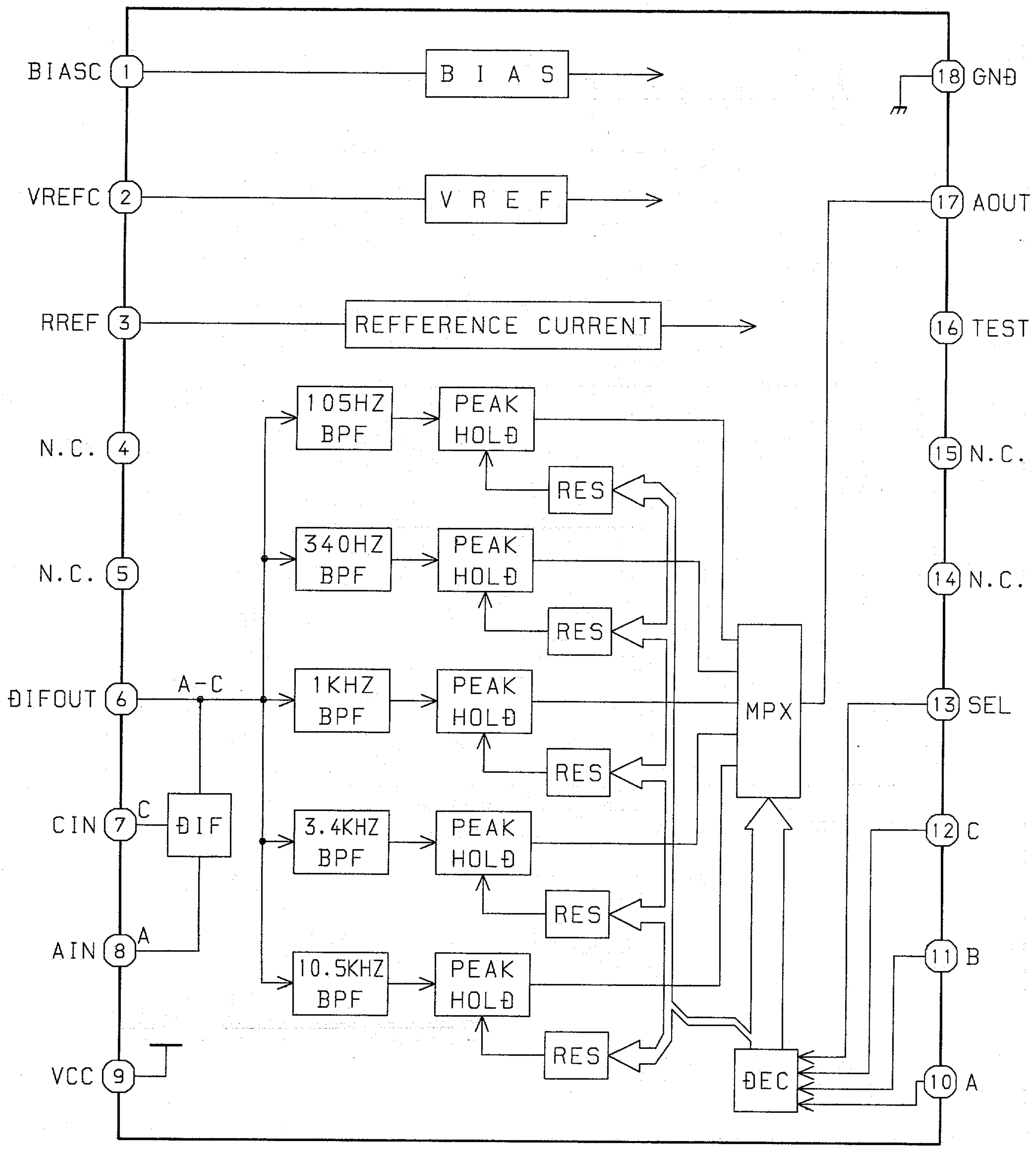
BJ624GK
GRID ASSIGNMENT

## ANODE CONNECTION

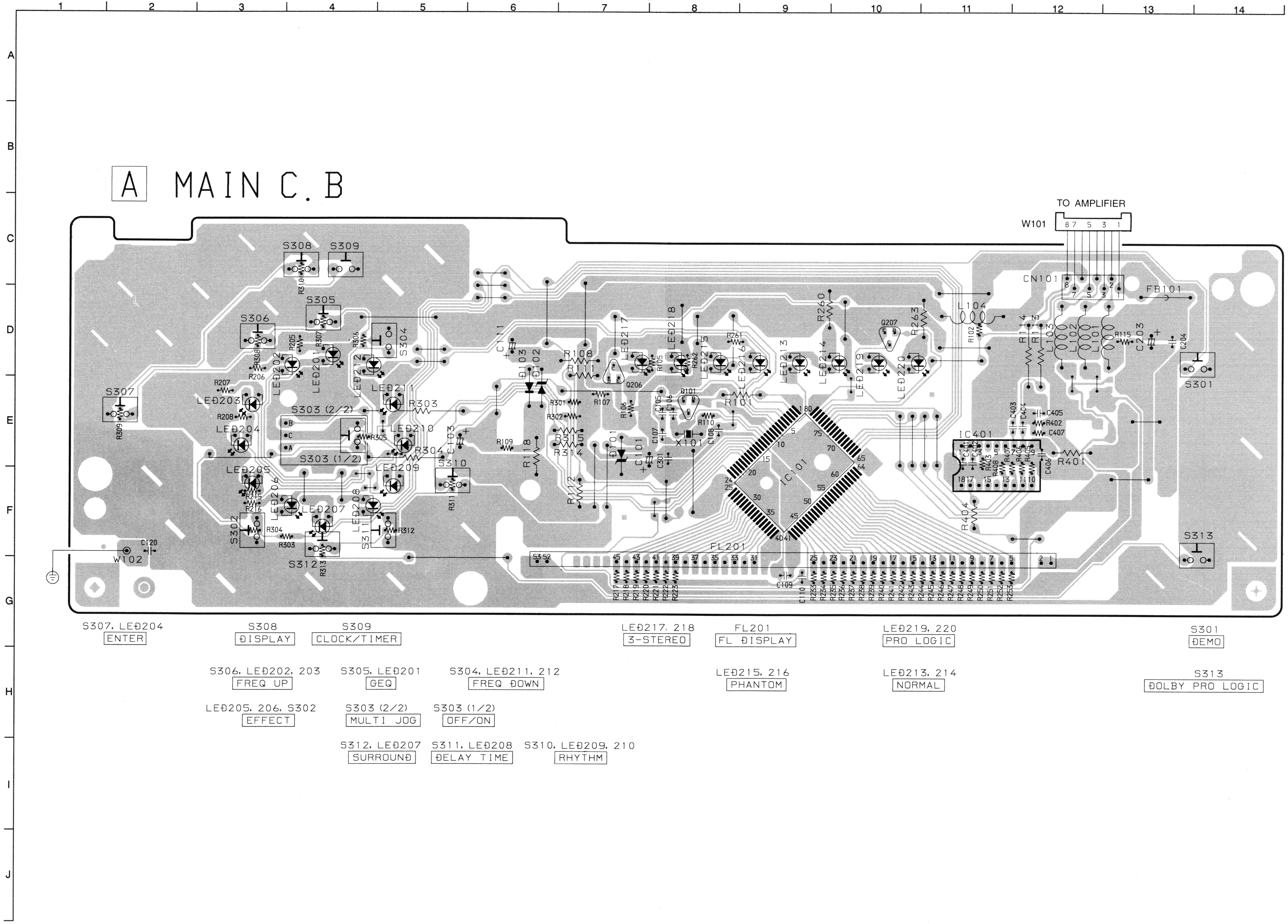
| | 9G | 8G | 7G | 6G | 5G | 4G | 3G | 2G | 1G |
|---|---|---|---|---|---|---|---|---|---|
| P1 | ▷ [M1] | — | a | a | a | a | — | — | [M1] ◁ |
| P2 | ▷ [M2] | S9 | b | b | b | b | — | S9 | [M2] ◁ |
| P3 | ▷ [M3] | **DELAY** | f | f | f | f | — | **SLEEP** | [M3] ◁ |
| P4 | ▷ [M4] | **FEED BACK** | g | g | g | g | — | 🕒 | [M4] ◁ |
| P5 | ▷ [M5] | **INPUT** | c | c | c | c | — | **REC** | [M5] ◁ |
| P6 | (ROCK) ◁ | **AM** | e | e | e | e | — | **mS** | ▷ (DISCO) |
| P7 | (POP) ◁ | **PM** | d | d | d | d | — | **dB** | ▷ (LIVE) |
| P8 | S1 | B11 | B11 | B11 | h | B11 | B11 | B11 | S1 |
| P9 | B1 | B1 | B1 | B1 | B1 | B1 | B1 | B1 | B1 |
| P10 | S6 | B12 | B12 | B12 | n | B12 | B12 | B12 | S6 |
| P11 | B2 | B2 | B2 | B2 | B2 | B2 | B2 | B2 | B2 |
| P12 | S7 | B13 | B13 | B13 | col(上) | B13 | B13 | B13 | S7 |
| P13 | B3 | B3 | B3 | B3 | B3 | B3 | B3 | B3 | B3 |
| P14 | S8 | B14 | B14 | B14 | col(下) | B14 | B14 | B14 | S8 |
| P15 | B4 | B4 | B4 | B4 | B4 | B4 | B4 | B4 | B4 |
| P16 | S3 | B15 | B15 | B15 | — | B15 | B15 | B15 | S3 |
| P17 | B5 | B5 | B5 | B5 | B5 | B5 | B5 | B5 | B5 |
| P18 | S4 | B16 | B16 | B16 | — | B16 | B16 | B16 | S4 |
| P19 | B6 | B6 | B6 | B6 | B6 | B6 | B6 | B6 | B6 |
| P20 | S5 | B17 | B17 | B17 | — | B17 | B17 | B17 | S5 |
| P21 | B7 | B7 | B7 | B7 | B7 | B7 | B7 | B7 | B7 |
| P22 | S2 | B18 | B18 | B18 | — | B18 | B18 | B18 | S2 |
| P23 | B8 | B8 | B8 | B8 | B8 | B8 | B8 | B8 | B8 |
| P24 | (JAZZ) ◁ | B19 | B19 | B19 | — | B19 | B19 | B19 | ▷(MOVIE) |
| P25 | B9 | B9 | B9 | B9 | B9 | B9 | B9 | B9 | B9 |
| P26 | (CLASSIC) ◁ | B20 | B20 | B20 | — | B20 | B20 | B20 | ▷ (HALL) |
| P27 | B10 | B10 | B10 | B10 | B10 | B10 | B10 | B10 | B10 |
| P28 | (BGM) ◁ | — | j.p | j.p | j.p | n | — | — | ▷(ARENA) |

IC BLOCK DIAGRAM (GE-NAVH1000)

IC, BA3835S


BIASC
1
B I A S
VREFC
2
V R E F
RREF
3
REFFERENCE CURRENT
N.C.
4
N.C.
5
ĐIFOUT
6
A-C
CIN
7
C
ĐIF
AIN
8
A
VCC
9
105HZ BPF
340HZ BPF
1KHZ BPF
3.4KHZ BPF
10.5KHZ BPF
PEAK HOLĐ
RES
MPX
ĐEC
18
GNĐ
17
AOUT
16
TEST
15
N.C.
14
N.C.
13
SEL
12
C
11
B
10
A

# WIRING (MAIN : GE-NAVH1000)


A MAIN C.B
TO AMPLIFIER
W101
8 7 5 3 1
CN101
FB101
L104
L101
L102
L103
R102
R114
R113
R115
C203
C204
R260
R263
R261
Q207
Q206
Q101
LED213
LED214
LED215
LED216
LED217
LED218
LED219
LED220
R108
R111
R107
R105
R262
R101
R106
C105
C106
R110
C107
C108
X101
C101
C301
D101
D102
D103
C111
R301
R302
R313
R314
R109
R118
R112
C103
IC101
1
5
10
15
20
24
25
30
35
40
41
45
50
55
60
64
65
70
75
80
IC401
C403
C404
C405
R402
C407
C406
R401
R404
FL201
C109
C110
S301
S302
S303 (2/2)
S303 (1/2)
S304
S305
S306
S307
S308
S309
S310
S311
S312
S313
LED201
LED202
LED203
LED204
LED205
LED206
LED207
LED208
LED209
LED210
LED211
LED212
R205
R206
R207
R208
R215
R216
R303
R304
R305
R306
R307
R308
R309
R310
R311
R312
R313
C120
W102
1
2
3
4
5
6
7
8
9
10
11
12
13
14
A
B
C
D
E
F
G
H
I
J

S307, LED204
ENTER

S308
DISPLAY

S309
CLOCK/TIMER

S306, LED202, 203
FREQ UP

S305, LED201
GEQ

S304, LED211, 212
FREQ DOWN

LED205, 206, S302
EFFECT

S303 (2/2)
MULTI JOG

S303 (1/2)
OFF/ON

S312, LED207
SURROUND

S311, LED208
DELAY TIME

S310, LED209, 210
RHYTHM

LED217, 218
3-STEREO

FL201
FL DISPLAY

LED215, 216
PHANTOM

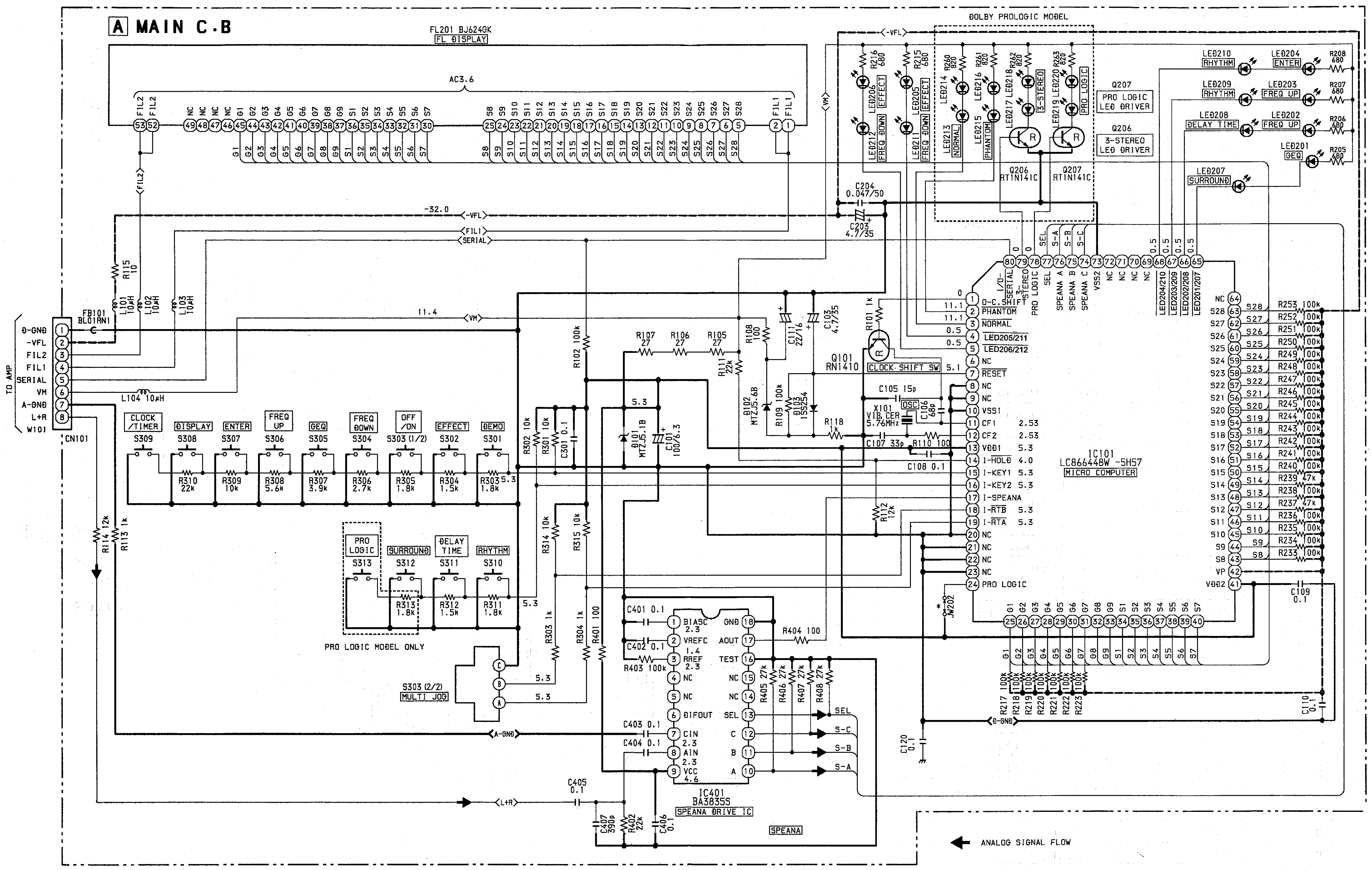
LED219, 220
PRO LOGIC

LED213, 214
NORMAL

S301
DEMO

S313
DOLBY PRO LOGIC

# SCHEMATIC DIAGRAM (MAIN : GE-NAVH1000)

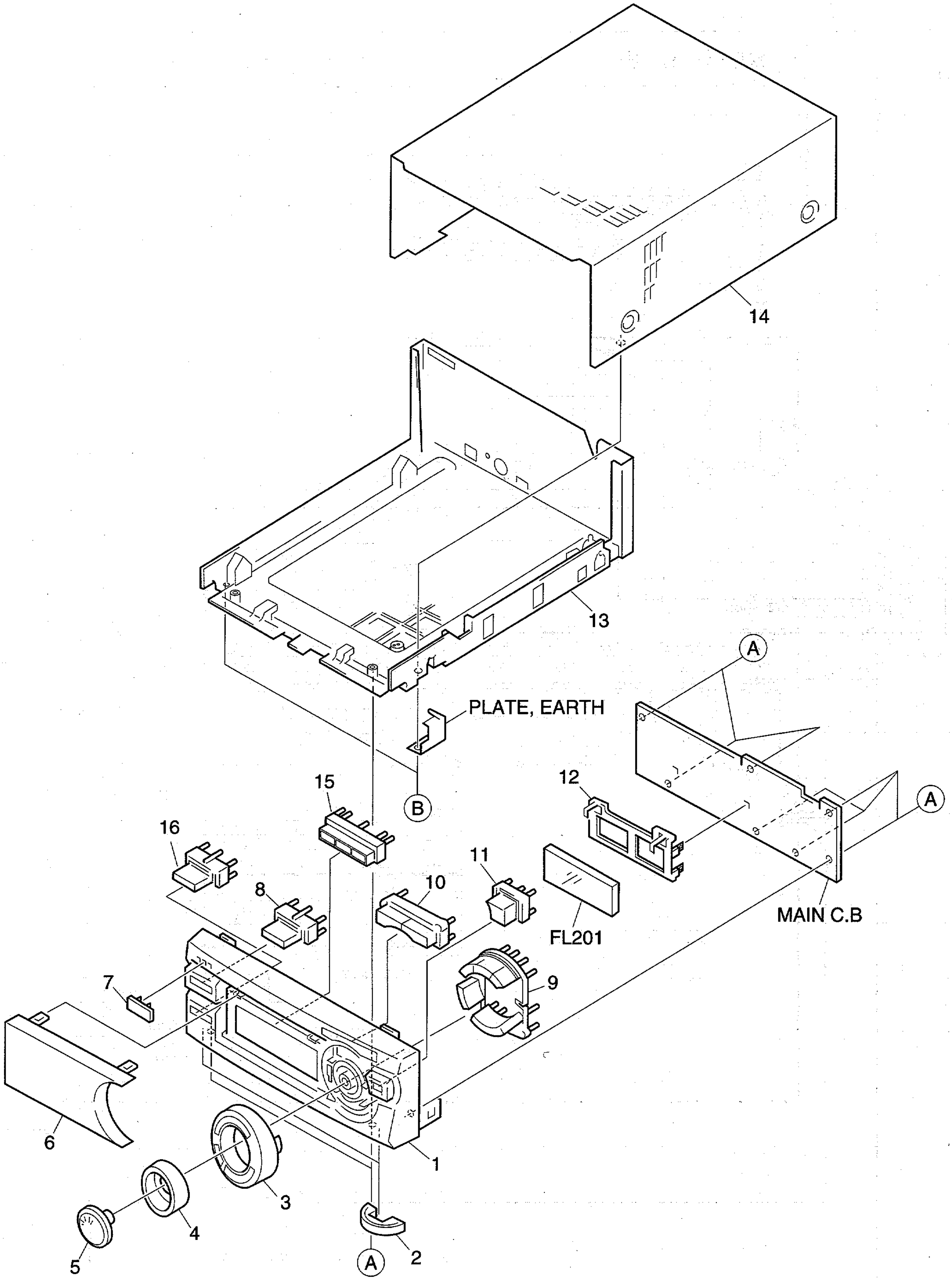

A MAIN C·B
FL201 BJ624GK
FL DISPLAY
AC3.6
FIL2 FIL2
NC NC NC NC G1 G2 G3 G4 G5 G6 G7 G8 G9 S1 S2 S3 S4 S5 S6 S7
S8 S9 S10 S11 S12 S13 S14 S15 S16 S17 S18 S19 S20 S21 S22 S23 S24 S25 S26 S27 S28
FIL1 FIL1
DOLBY PROLOGIC MODEL
-VFL
VM
R216 680
R215 680
R260 820
R261 820
R262 820
R263 820
LED206 EFFECT
LED205 EFFECT
LED212 FREQ DOWN
LED211 FREQ DOWN
LED214
LED216
LED217 LED218
3-STEREO
LED219 LED220
PRO LOGIC
LED213 NORMAL
LED215 PHANTOM
Q207 PRO LOGIC LED DRIVER
Q206 3-STEREO LED DRIVER
Q206 RT1N141C
Q207 RT1N141C
LED210 RHYTHM
LED204 ENTER
R208 680
LED209 RHYTHM
LED203 FREQ UP
R207 680
LED208 DELAY TIME
LED202 FREQ UP
R206 680
LED201 GEQ
R205 680
LED207 SURROUND
C204 0.047/50
C203 4.7/35
-32.0
FIL1
SERIAL
R115 10
L101 10μH
L102 10μH
L103 10μH
FB101 BL01RN1
11.4
D-GND -VFL FIL2 FIL1 SERIAL VM A-GND L+R W101
TO AMP
CN101
L104 10μH
R102 100k
R107 27
R106 27
R105 27
R111 22k
R108 100
C111 22/16
C103 4.7/35
R101 1k
Q101 RN1410
CLOCK SHIFT SW
5.1
D102 MTZJ5.6B
R109 100k
D103 1SS254
R118 1k
C105 15p
X101 VIB.CER 5.76MHz
OSC
C106 68p
C107 33p
R110 100
C108 0.1
R112 12k
5.3
D101 MTZJ5.1B
C101 100/6.3
R302 10k
R301 10k
C301 0.1
CLOCK /TIMER S309
DISPLAY S308
ENTER S307
FREQ UP S306
GEQ S305
FREQ DOWN S304
OFF /ON S303 (1/2)
EFFECT S302
DEMO S301
R310 22k
R309 10k
R308 5.6k
R307 3.9k
R306 2.7k
R305 1.8k
R304 1.5k
R303 1.8k
R314 10k
R315 10k
PRO LOGIC S313
SURROUND S312
DELAY TIME S311
RHYTHM S310
R313 1.8k
R312 1.5k
R311 1.8k
PRO LOGIC MODEL ONLY
R303 1k
R304 1k
R401 100
S303 (2/2) MULTI JOG
C B A
R114 12k
R113 1k
A-GND
L+R
C401 0.1
C402 0.1
R403 100k
C403 0.1
C404 0.1
C405 0.1
C407 390p
R402 22k
C406 0.1
1 BIASC 2.3
2 VREFC 1.4
3 RREF 2.3
4 NC
5 NC
6 DIFOUT
7 CIN 2.3
8 AIN 2.3
9 VCC 4.6
18 GND
17 AOUT
16 TEST
15 NC
14 NC
13 SEL
12 C
11 B
10 A
IC401 BA3835S
SPEANA DRIVE IC
R404 100
R405 27k
R406 27k
R407 27k
R408 27k
SEL S-C S-B S-A
SPEANA
1 D-C.SHIFT 0
2 PHANTOM 11.1
3 NORMAL 11.1
4 LED205/211 0.5
5 LED206/212 0.5
6 NC
7 RESET
8 NC
9 NC
10 VSS1
11 CF1 2.53
12 CF2 2.53
13 VDD1 5.3
14 I-HOLD 4.0
15 I-KEY1 5.3
16 I-KEY2 5.3
17 I-SPEANA
18 I-RTB 5.3
19 I-RTA 5.3
20 NC
21 NC
22 NC
23 NC
24 PRO LOGIC
80 I/O-SERIAL 0
79 3-STEREO 0
78 PRO LOGIC
77 SEL
76 SPEANA A
75 SPEANA B
74 SPEANA C
73 VSS2
72 NC
71 NC
70 NC
69 NC
68 LED204/210 0.5
67 LED203/209 0.5
66 LED202/208 0.5
65 LED201/207 0.5
SEL S-A S-B S-C
IC101 LC866448W -5H57
MICRO COMPUTER
64 NC
63 S28
62 S27
61 S26
60 S25
59 S24
58 S23
57 S22
56 S21
55 S20
54 S19
53 S18
52 S17
51 S16
50 S15
49 S14
48 S13
47 S12
46 S11
45 S10
44 S9
43 S8
42 VP
41 VDD2
R253 100k
R252 100k
R251 100k
R250 100k
R249 100k
R248 100k
R247 100k
R246 100k
R245 100k
R244 100k
R243 100k
R242 100k
R241 100k
R240 100k
R239 47k
R238 100k
R237 47k
R236 100k
R235 100k
R234 100k
R233 100k
C109 0.1
JW202
25 G1 26 G2 27 G3 28 G4 29 G5 30 G6 31 G7 32 G8 33 G9 34 S1 35 S2 36 S3 37 S4 38 S5 39 S6 40 S7
R217 100k
R218 100k
R219 100k
R220 100k
R221 100k
R222 100k
R223 100k
C110 0.1
C120 0.1
D-GND
ANALOG SIGNAL FLOW

# IC DESCRIPTION (GE-NAVH1000)

## IC, LC866448W-5H57

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1 | O-C.SHIFT | O | Micro computer clock shift output. |
| 2 | PHANTOM | O | PHANTOM LED output. |
| 3 | NORMAL | O | Normal LED output. |
| 4 | LED205 / 211 | O | LED205 / 211 ON / OFF output. |
| 5 | LED206 / 212 | O | LED206 / 212 ON / OFF output. |
| 6 | N.C | – | Not used. |
| 7 | RESET | I | Reset input. |
| 8 | N.C | – | Not used.(Connected to GND) |
| 9 | N.C | – | Not used.(Connected to GND) |
| 10 | VSS 1 | – | GND. |
| 11 | CF 1 | – | Connected to crystal oscillator(5.76MHz). |
| 12 | CF 2 | – | |
| 13 | VDD 1 | – | Power supply. |
| 14 | I-HOLD | I | System power supply monitor AD input. 'H' : Normal operation. 'L' : to stop clock and main memory |
| 15 | I-KEY 1 | I | KEY 1 AD input. |
| 16 | I-KEY 2 | I | KEY 2 AD input. |
| 17 | I-SPEANA | I | Spectrum analyzer level AD input. |
| 18 | I-RTB | I | Jog rotary encoder (B) input. |
| 19 | I-RTA | I | Jog rotary encoder (A) input. |
| 20 ~ 23 | N.C | – | Not used.(Connected to GND) |
| 24 | PROLOGIC | I | Input prologic switch "H" when prologic, "L" when not prologic. |
| 25 ~ 33 | G1 ~ G9 | O | FL grid output. |
| 34 ~ 40 | S1 ~ S7 | O | FL segment output. |
| 41 | VDD 2 | – | Connected to GND. |
| 42 | VP | – | Power FL display negative supply terminal. |
| 43 ~ 63 | S8 ~ S28 | O | FL segment output. |
| 64 | N.C | – | Not connected. |
| 65 | LED201 / 207 | O | LED201 / 207 ON / OFF output. |
| 66 | LED202 / 208 | O | LED202 / 208 ON / OFF output. |
| 67 | LED203 / 209 | O | LED203 / 209 ON / OFF output. |
| 68 | LED204 / 210 | O | LED204 / 210 ON / OFF output. |
| 69 ~ 72 | N.C | – | Not connected. |
| 73 | VSS 2 | – | GND. |
| 74 | SPEANA C | O | Spectrum analyzer band switch output C. |
| 75 | SPEANA B | O | Spectrum analyzer band switch output B. |
| 76 | SPEANA A | O | Spectrum analyzer band switch output A. |
| 77 | SEL | O | Spectrum analyzer band switch output. |
| 78 | PROLOGIC | O | Prologic LED output. |
| 79 | 3-STEREO | O | 3 STEREO LED output. |
| 80 | I/O - SERIAL | I/O | Input / output serial data for communication. |

# MECHANICAL EXPLODED VIEW 1 / 1 (GE-NAVH1000)


14
13
Ⓐ
PLATE, EARTH
Ⓑ
15
16
12
Ⓐ
11
10
8
MAIN C.B
FL201
7
9
6
1
3
4
5
Ⓐ
2

# MECHANICAL PARTS LIST 1/1(GE-NAVH1000)

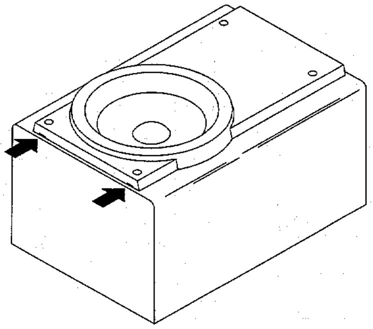
If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

| REF. NO. | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| 1 | 88-SUM-001-010 | | CABI,FR |
| 2 | 88-SU1-014-010 | | RING,FOOT |
| 3 | 88-SU1-006-010 | | PANEL,JOG |
| 4 | 88-SU1-005-010 | | REFLECTOR,JOG |
| 5 | 88-SU1-007-010 | | KNOB,RTRY JOG |
| 6 | 88-SU1-004-010 | | WINDOW,DISPLAY |
| 7 | 87-B00-002-010 | | BADGE,AIWA 30 ABS SIL |
| 8 | 88-SU1-012-010 | | KEY,DEMO |
| 9 | 88-SU1-008-010 | | KEY,GEQ |
| 10 | 88-SU1-009-010 | | KEY,TIMER |
| 11 | 88-SU1-010-010 | | KEY,ENTER |
| 12 | 88-SU1-201-010 | | GUIDE,FL |
| 13 | 88-SUM-024-110 | | CABI,REAR YS<YS> |
| 13 | 88-SUM-027-110 | | CABI,REAR YSN<YSN> |
| 14 | 88-SU1-002-010 | | CABI,STEEL |
| 15 | 88-SUM-202-010 | | GUIDE,PRO |
| 16 | 88-SUM-011-010 | | KEY,PRO |
| A | 87-067-703-010 | | TAPPING SCREW, BVT2+3-10 |
| B | 87-067-633-010 | | BVT2+3-8 W/O SLOT |

# SPEAKER DISASSEMBLY INSTRUCTIONS

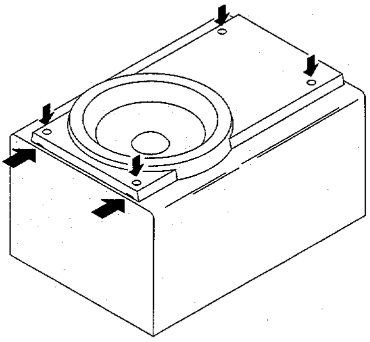
## Type.1

Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Remove the screws of each speaker unit and then remove the speaker units.



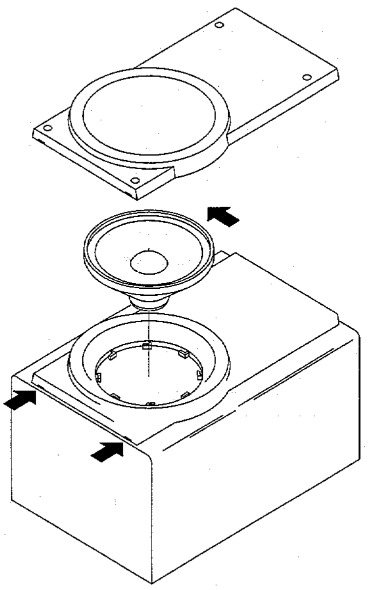
## Type.2

Remove the grill frame and four pieces of rubber caps by pulling out with a flat-bladed screwdriver. Remove the screws from hole where installed rubber caps. Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Remove the screws of each speaker unit and then remove the speaker units.

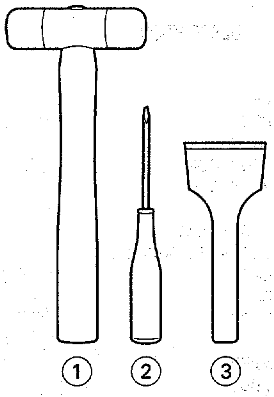


## Type.3

Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Turn the speaker unit to counter-clockwise direction while inserting a flat-bladed screwdriver into one of the hollows around speaker unit, and then remove the speaker unit. After replacing the speaker unit, install it turning to clockwise direction untill "click" sound comes out.



## Type.4



TOOLS

① Plastic head hammer
② (⊖) flat head screwdriver
③ Cut chisel

## How to Remove the PANEL, FR

1. Insert the (⊖) flat head screwdriver tip into the gap between the PANEL, FR and the PANEL, SPKR. Tap the head of the (⊖) flat head screwdriver with the plastic hammer head, and create the clearance as shown in Fig-1.
2. Insert the cut chisel in the clearance, and tap the head of the cut chisel with plastic hammer as shown in Fig-2, to remove the PANEL, FR.
3. Place the speaker horizontally. Tap head of the cut chisel with plastic hammer as shown in Fig-3, and remove the PANEL, FR completely.

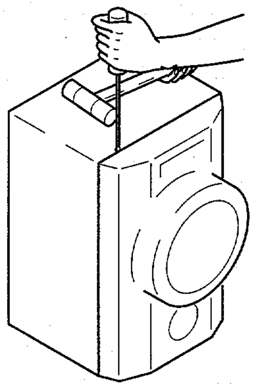


Fig-1

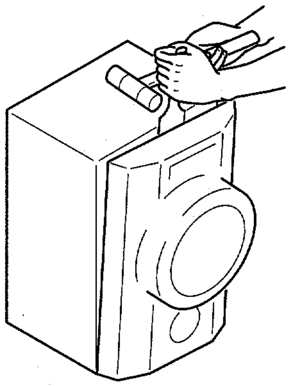


Fig-2

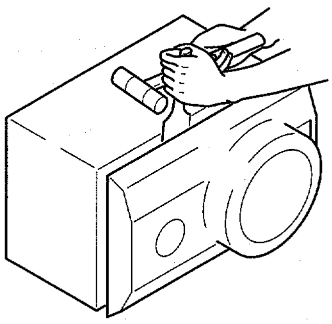


Fig-3

## How to Attach the PANEL, FR

Attach the PANEL, FR to the PANEL, SPKR. Tap the four corners of the PANEL, FR with the plastic hammer to fit the PANEL, FR into the PANEL, SPKR completely.

# SX-NAVH1000 (YJBL, YJTL, YTNL, YBNL, YLTL) SPEAKER PARTS LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

| REF. NO. | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| 1 | 83-MS2-603-110 | | SPKR,T 60 |
| 2 | 87-NSY-610-010 | | SPKR CORD |
| 3 | 88-SSM-003-010 | | PANEL,FR |
| 4 | 88-SSM-004-010 | | PANEL,TW |
| 5 | 88-SSM-005-010 | | GRILLE,FRAME ASSY<YJBL,YJTL,YLTL> |
| 5 | 88-SSM-016-010 | | GRILLE,FRAME E ASSY<YBNL,YTNL> |
| 6 | 88-SSM-010-010 | | PROTECTER,TW |
| 7 | 88-SSM-602-010 | | SPKR, W 140 |
| 8 | 88-SSM-610-010 | | SPKR, CERAMIC ASSY |
| 9 | 88-SSM-611-010 | | TERMINAL,ASSY |

# SX-CR675 (YSTNC, YJSTNC) SPEAKER PARTS LIST

NOTE: This SX-CR675 speaker contains SX-C605 (center speaker) and SX-R275 (rear speaker).

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

| REF. NO. | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| 1 | 87-YS3-001-010 | | PANEL,FRONT ST(C605) |
| 2 | 87-YS3-003-010 | | GRILLE,FRAME ASSY(C605) |
| 3 | 83-NSM-010-010 | | SPEAKER CORD(C605) |
| 4 | 87-YS7-602-010 | | SPKR,100(C605) |
| 5 | 87-YS1-001-010 | | CABI,REAR(R275) |
| 6 | 87-YS1-004-010 | | GRILLE FRAME ASSY(R275) |
| 7 | 87-YS1-002-010 | | GRILLE,FRAME(R275) |
| 8 | 81-VSA-009-010 | | CORD BUSH(R275) |
| 9 | 87-YS6-002-010 | | SPKR, CORD Y(R275) |
| 10 | 87-YS6-601-010 | | SPKR, 100(R275) |
| 11 | 87-010-384-010 | | CAP,E 100-25 SME(R275) |
| 12 | 87-YS8-901-010 | | IB,YJ(ECA)O<YJ> |
| 12 | 87-YS8-906-010 | | IB,Y(9L)O<Y> |

# REFERENCE NAME LIST

## ELECTRICAL SECTION

| DESCRIPTION | REFERENCE NAME |
|---|---|
| ANT | ANTENNAS |
| C- | CHIP |
| C-CAP | CAP, CHIP |
| C-CAP TN | CAP, CHIP TANTALUM |
| C-COIL | COIL, CHIP |
| C-DI | DIODE, CHIP |
| C-DIODE | DIODE, CHIP |
| C-FET | FET, CHIP |
| C-FOTR | FILTER, CHIP |
| C-JACK | JACK, CHIP |
| C-LED | LED, CHIP |
| C-RES | RES, CHIP |
| C-SFR | SFR, CHIP |
| C-SLIDE SW | SLIDE SWITCH, CHIP |
| C-SW | SWITCH, CHIP |
| C-TR | TRANSISTOR, CHIP |
| C-VR | VOLUME, CHIP |
| C-ZENER | ZENER, CHIP |
| CAP, CER | CAP, CERA-SOL |
| CAP, E | CAP, ELECT |
| CAP, M/F | CAP, FILM |
| CAP, TC | CAP, CERA-SOL |
| CAP, TC-U | CAP, CERA-SOL SS |
| CAP, TN | CAP, TANTALUM |
| CERA FIL | FILTER, CERAMIC |
| CF | FILTER, CERAMIC |
| DL | DELAY LINE |
| E/CAP | CAP, ELECT |
| FILT | FILTER |
| FLTR | FILTER |
| FUSE RES | RES, FUSE |
| MOT | MOTOR |
| P-DIODE | PHOTO DIODE |
| P-SNSR | PHOTO SENSER |
| P-TR | PHOTO TRANSISTOR |
| POLY VARI | VARIABLE CAPACITOR |
| PPCAP | CAP, PP |
| PT | POWER TRANSFORMER |
| PTR, RES | PTR, MELF |
| RC | REMOTE CONTROLLER |
| RES NF | RES, NON-FLAMMABLE |
| RESO | RESONATOR |
| SHLD | SHIELD |
| SOL | SOLENOID |
| SPKR | SPEAKER |
| SW, LVR | SWITCH, LEVER |
| SW, RTRY | SWITCH, ROTARY |
| SW, SL | SWITCH, SLIDE |
| TC CAP | CAP, CERA-SOL |
| THMS | THERMISTOR |
| TR | TRANSISTOR |
| TRIMER | CAP, TRIMMER |
| TUN-CAP | VARIABLE CAPACITOR |
| VIB, CER | RESONATOR, CERAMIC |
| VIB, XTAL | RESONATOR, CRYSTAL |
| VR | VOLUME |
| ZENER | DIODE, ZENER |

## MECHANICAL SECTION

| DESCRIPTION | REFERENCE NAME |
|---|---|
| ADHESHIVE | SHEET ADHESHIVE |
| AZ | AZIMUTH |
| BAR-ANT | BAR-ANTENNA |
| BAT | BATTERY |
| BATT | BATTERY |
| BRG | BEARING |
| BTN | BUTTON |
| CAB | CABINET |
| CASS | CASSETTE |
| CHAS | CHASSIS |
| CLR | COLLAR |
| CONT | CONTROL |
| CRSR | CURSOR |
| CU | CUSHION |
| CUSH | CUSHION |
| DIR | DIRECTION |
| DUBB | DUBBING |
| FL | FRONT LOADING |
| FLY-WHL | FLYWHEEL |
| FR | FRONT |
| FUN | FUNCTION |
| G-CU | G-CUSHION |
| HDL | HANDOL |
| HIMERON | CLOTH |
| HINGE, BAT | HINGE, BATTERY |
| HLDR | HOLDER |
| HT-SINK | HEAT SINK |
| IB | INSTRUCTION BOOKLET |
| IDLE | IDLER |
| IND, L-R | INDICATOR, L-R |
| KEY, CONT | KEY, CONTROL |
| KEY, PRGM | KEY, PROGRAM |
| KNOB, SL | KNOB, SLIDE |
| LBL | LABEL |
| LID, BATT | LID, BATTERY |
| LID, CASS | LID, CASSETTE |
| LVR | LEVER |
| P-SP | P-SPRING |
| PANEL, CONT | PANEL, CONTROL |
| PANEL, FR | PANEL, FRONT |
| PRGM | PROGRAM |
| PULLY, LOAD MO | PULLY, LOAD MOTOR |
| RBN | RIBBON |
| S- | SPECIAL |
| SEG | SEGMENT |
| SH | SHEET |
| SHLD-SH | SHIELD-SHEET |
| SL | SLIDE |
| SP | SPRING |
| SP-SCREW | SPECIAL-SCREW |
| SPACER, BAT | SPACER, BATTERY |
| SPR | SPRING |
| SPR-P | P-SPRING |
| SPR-PC-PUSH | P-SPRING, C-PUSH |
| T-SP | T-SPRING |
| TERM | TERMINAL |
| TRIG | TRIGGER |
| TUN | TUNING |
| VOL | VOLUME |
| W | WASHER |
| WHL | WHEEL |
| WORM-WHL | WORM-WHEEL |

| サービス技術ニュース | |
|---|---|
| 番号 | 連絡内容 |
| G—　— | |
| G—　— | |
| G—　— | |

9420208, 9630472,
9630466, 931261

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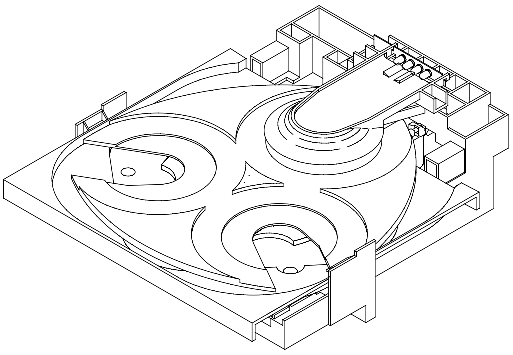
aiwa

aiwa SERVICE

# 4ZG-1



CD MECHANISM

SERVICE MANUAL

- BASIC CD MECHANISM:3ZG-2 E1
- TYPE: English

| BASIC NAME | DERIVATION NAME | | | | | |
|---|---|---|---|---|---|---|
| 4ZG-1 | V | O | S1 | D | SH | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

■ This Service Manual has various derivation.Derivation name is indicated by the Service Manual for each model.

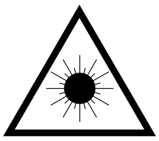
S/M Code No. 09-985-249-80T

# PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

**WARNING!**

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynling laserståling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

**VAROITUS!**

Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

**VARNING!**

Om apparaten används på annat sätt än vad som specificeras i denna bruksanvising, kan användaren utsättas för osynling laserstrålning, som överskrider gränsen för laserklass 1.

**CAUTION**

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

**ATTENTION**

L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

**ADVARSEL!**

Usynlig laserståling ved åbning, når sikkerhedsafbrydereer ude af funktion. Undgå udsættelse for stråling.

This Compact Disc player is classified as a CLASS 1 LASER product.

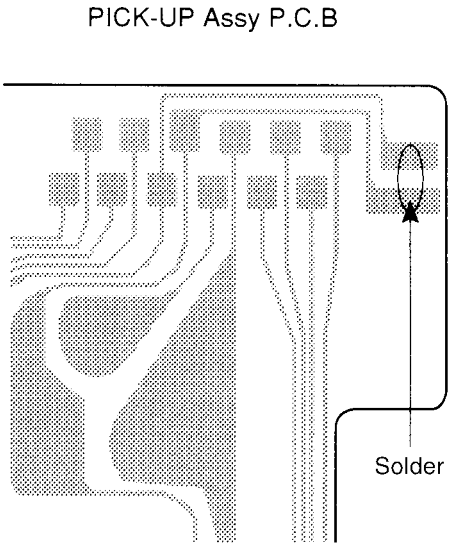
The CLASS 1 LASER PRODUCT label is located on the rear exterior.

| | |
|---|---|
| CLASS 1 | LASER PRODUCT |
| KLASSE 1 | LASER PRODUKT |
| LUOKAN 1 | LASER LAITE |
| KLASS 1 | LASER APPARAT |

## Precaution to replace Optical block (KSS-213F)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

1) After the connection, remove solder shown in the right figure.



This is the SERVICE MANUAL for the BASIC CD MECHANISM of BASIC NAME: 4ZG-1. This BASIC NAME includes the following models as shown under the SUFFIX name: DERIVATION NAME. Please use this manual with the separate SERVICE MANUAL for DERIVATION NAME.

BASIC CD MECHANISM: 4ZG-1 VOS1DSH

SUFFIX
(DERIVATION NAME)

BASIC NAME: 4ZG-1

| BASIC NAME | DERIVATION NAME | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 4ZG-1 | V | O | S1 | D | SH | — | — | — |

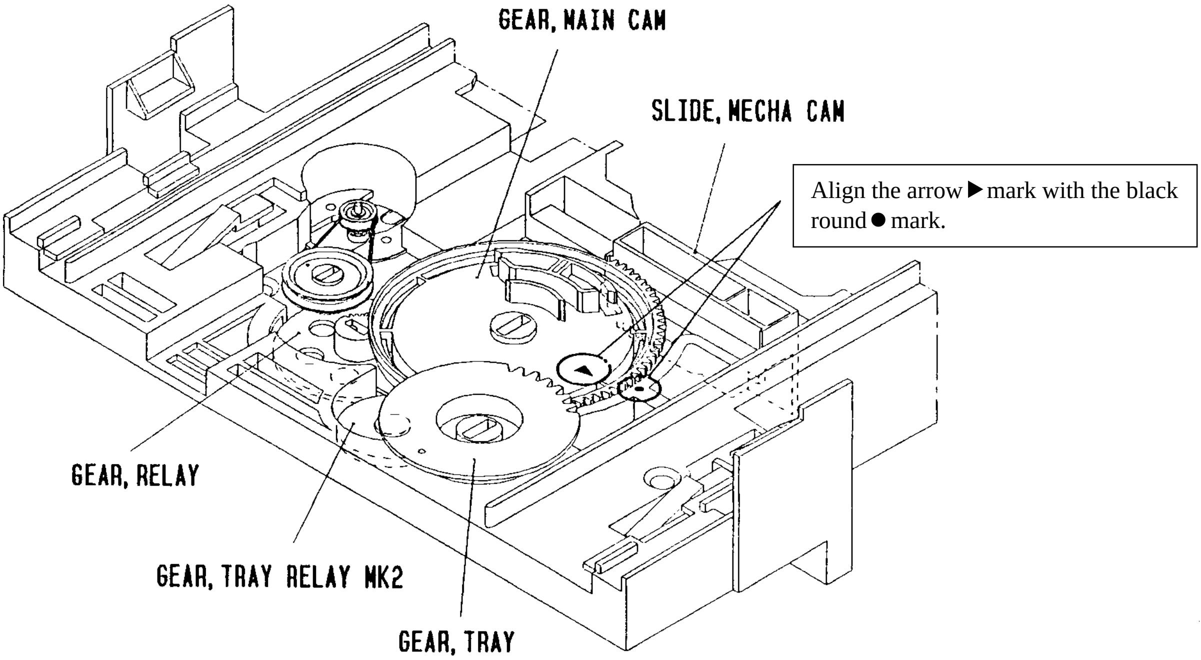
DERIVATION NAME

V: VIDEO OUT
O: On screen display
S1: THE 1st SONY IC MODEL
D: Digital output function
SH: Pick up equipped with shutter

## How to Adjust the Rotating Phase of the Gear, Main Cam

1) Push down the hooking catch of the CHAS. MECH, and remove the TRAY.
2) Align the arrow mark of the Gear, Main Cam with the black round mark of the CHAS, MECHA as shown below.
3) Confirm that the Slide, Mech Cam is located in the right position, then insert the TRAY gently.

Caution: If the rotating phase of the Gear, Main Cam is incorrectly adjusted, the chucking operation and tray movement will have malfunction.


GEAR, MAIN CAM
SLIDE, MECHA CAM
GEAR, RELAY
GEAR, TRAY RELAY MK2
GEAR, TRAY

Align the arrow ▶ mark with the black round ● mark.

# ELECTRICAL MAIN PARTS LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

IC

| REF. NO | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| | 87-A20-547-010 | | C-IC,CXA1992AR |
| | 87-A20-919-040 | | C-IC,BA5915FP |
| | 87-A20-917-010 | | C-IC,CXD2540Q-1/2 |
| | 84-ZG1-697-010 | | C-IC,UPD78016FGC-549 |
| | 87-017-825-010 | | IC,GP1F32T |
| | 87-017-760-080 | | IC,M51943BML |
| | 87-A20-602-040 | | C-IC,M5291FP |
| | 87-A20-925-040 | | C-IC,BA05FP |
| | 87-A20-905-040 | | C-IC,BA033FP |
| | 87-001-873-010 | | IC,LB1644 |
| | 87-A20-920-010 | | C-IC,CL680-D1 |
| | 87-A20-921-040 | | C-IC,SN74LVU04APW |
| | 87-A20-656-040 | | C-IC,MB81V4260S-60/70PFTN |
| | 84-ZG1-695-040 | | C-IC,LH5V2RN1 |
| | 87-A20-975-040 | | C-IC,SN74LV74APW |
| | 87-A20-974-040 | | C-IC,LC74781M-9017 |
| | 87-A20-918-040 | | C-IC,SM5878AM |

TRANSISTOR

| REF. NO | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| | 87-026-463-080 | | TR,2SA933S (0.3W) |
| | 87-026-237-080 | | CHIP-TR,DTC124XK |
| | 89-327-125-080 | | CHIP TR,2SC2712GR |
| | 87-026-231-080 | | CHIP-TRANSISTER,DTA124XK |
| | 87-A30-117-010 | | TR,2SA1357 |
| | 89-111-625-080 | | TR,2SA1162 (0.15W) |
| | 87-026-580-080 | | C-TR,DTA123JK |
| | 87-026-470-080 | | TR,HN1C03F (0.3W) |

DIODE

| REF. NO | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| | 87-020-027-080 | | CHIP-DIODE 1SS184 |
| | 87-017-024-040 | | C-DIODE,DA204K |
| | 87-A40-180-040 | | C-DIODE,SB07-015C |
| | 87-A40-384-080 | | C-ZENER,UDZ3.3B |

3CD C.B

| REF. NO | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| C101 | 87-010-182-080 | | C-CAP,S 2200P-50 B |
| C102 | 87-016-669-080 | | C-CAP,S 0.1-25 K B |
| C103 | 87-016-669-080 | | C-CAP,S 0.1-25 K B |
| C104 | 87-016-669-080 | | C-CAP,S 0.1-25 K B |
| C105 | 87-010-404-040 | | CAP,E 4.7-50 SME |
| C106 | 87-016-369-080 | | C-CAP,S 0.033-25 B K |
| C107 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C108 | 87-010-401-040 | | CAP,E 1-50 SME |
| C109 | 87-010-382-040 | | CAP,E 22-25 SME |
| C110 | 87-010-213-080 | | C-CAP,S 0.015-50 B |
| C111 | 87-010-263-040 | | CAP,E 100-10 |
| C112 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C113 | 87-016-369-080 | | C-CAP,S 0.033-25 B K |
| C114 | 87-016-369-080 | | C-CAP,S 0.033-25 B K |
| C115 | 87-016-369-080 | | C-CAP,S 0.033-25 B K |
| C116 | 87-012-158-080 | | C-CAP,S 390P-50 CH |
| C117 | 87-012-154-080 | | C-CAP,S 150P-50 CH |
| C118 | 87-010-494-040 | | CAP,E 1-50 GAS |
| C119 | 87-010-152-080 | | C-CAP,S 8P-50 CH |
| C120 | 87-010-992-080 | | C-CAP,S 0.047-25 B |
| C121 | 87-010-992-080 | | C-CAP,S 0.047-25 B |
| C123 | 87-016-669-080 | | C-CAP,S 0.1-25 K B |
| C125 | 87-010-198-080 | | CAP, CHIP 0.022 |
| C126 | 87-016-669-080 | | C-CAP,S 0.1-25 K B |
| C127 | 87-010-555-040 | | CAP,E 100-10 GAS |
| C130 | 87-010-555-040 | | CAP,E 100-10 GAS |
| C131 | 87-010-555-040 | | CAP,E 100-10 GAS |
| C132 | 87-010-178-080 | | CHIP CAP 1000P |
| C133 | 87-010-555-040 | | CAP,E 100-10 GAS |
| C134 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C135 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C136 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C137 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C138 | 87-010-182-080 | | C-CAP,S 2200P-50 B |
| C139 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C140 | 87-010-112-040 | | CAP,E 100-16 |
| C141 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C142 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C143 | 87-010-213-080 | | C-CAP,S 0.015-50 B |
| C151 | 87-010-263-040 | | CAP,E 100-10 |
| C152 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C153 | 87-A10-893-040 | | CAP,E 220-10 M PW |
| C154 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C155 | 87-010-184-080 | | CHIP CAPACITOR 3300P(K) |
| C156 | 87-010-992-080 | | C-CAP,S 0.047-25 B |
| C157 | 87-010-992-080 | | C-CAP,S 0.047-25 B |
| C158 | 87-012-156-080 | | C-CAP,S 220P-50 CH |
| C159 | 87-016-526-080 | | C-CAP,S 0.47-16 BK |
| C160 | 87-010-314-080 | | C-CAP,S 22P-50V |
| C161 | 87-010-182-080 | | C-CAP,S 2200P-50 B |
| C162 | 87-010-178-080 | | CHIP CAP 1000P |
| C201 | 87-016-669-080 | | C-CAP,S 0.1-25 K B |
| C204 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C205 | 87-010-379-040 | | CAP,E 22-16 M SME |
| C206 | 87-010-322-080 | | C-CAP,S 100P-50 CH |
| C207 | 87-010-322-080 | | C-CAP,S 100P-50 CH |
| C208 | 87-010-322-080 | | C-CAP,S 100P-50 CH |
| C209 | 87-010-322-080 | | C-CAP,S 100P-50 CH |
| C210 | 87-016-669-080 | | C-CAP,S 0.1-25 K B |
| C211 | 87-010-263-040 | | CAP,E 100-10 |
| C213 | 87-010-190-080 | | S CHIP F 0.01 |
| C214 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C301 | 87-016-251-040 | | CAP,E 220-16 SMG |
| C302 | 87-012-140-080 | | CAP 470P |
| C303 | 87-010-178-080 | | CHIP CAP 1000P |
| C304 | 87-010-384-040 | | CAP,E 100-25 SME |
| C305 | 87-010-982-040 | | CAP,E 33-25 GAS |
| C306 | 87-010-112-040 | | CAP,E 100-16 |
| C307 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C308 | 87-010-263-040 | | CAP,E 100-10 |
| C309 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C310 | 87-010-263-040 | | CAP,E 100-10 |
| C311 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C312 | 87-010-178-080 | | CHIP CAP 1000P |
| C320 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C401 | 87-016-044-040 | | CAP,E 100-16 GAS |
| C402 | 87-010-190-080 | | S CHIP F 0.01 |
| C403 | 87-010-190-080 | | S CHIP F 0.01 |
| C501 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C502 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C503 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C504 | 87-010-154-080 | | CAP CHIP 10P |
| C505 | 87-010-154-080 | | CAP CHIP 10P |
| C506 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C508 | 87-010-263-040 | | CAP,E 100-10 |
| C509 | 87-016-669-080 | | C-CAP,S 0.1-25 K B |
| C510 | 87-010-263-040 | | CAP,E 100-10 |
| C511 | 87-016-669-080 | | C-CAP,S 0.1-25 K B |
| C512 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C513 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C514 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C518 | 87-010-322-080 | | C-CAP,S 100P-50 CH |
| C519 | 87-012-145-080 | | CAP, CHIP S 270P CH |
| C520 | 87-012-157-080 | | C-CAP,S 330P-50 CH |
| C521 | 87-012-154-080 | | C-CAP,S 150P-50 CH |
| C522 | 87-010-371-080 | | CAP, ELECT 470-6.3V |
| C523 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C524 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C525 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C526 | 87-010-197-080 | | CAP, CHIP 0.01 DM |

| REF. NO | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| C527 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C528 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C529 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C530 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C531 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C532 | 87-010-374-040 | | CAP,E 47-10 |
| C533 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C534 | 87-010-555-040 | | CAP,E 100-10 GAS |
| C535 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C536 | 87-010-078-040 | | CAP,E 47-6.3 5L |
| C537 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C538 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C539 | 87-016-669-080 | | C-CAP,S 0.1-25 K B |
| C540 | 87-010-078-040 | | CAP,E 47-6.3 5L |
| C541 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C542 | 87-010-318-080 | | C-CAP,S 47P-50 CH |
| C544 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C546 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C549 | 87-010-494-040 | | CAP,E 1-50 GAS |
| C550 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C551 | 87-012-153-080 | | C-CAP,S 120P-50 CH |
| C552 | 87-016-526-080 | | C-CAP,S 0.47-16 BK |
| C554 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C556 | 87-010-378-040 | | CAP,E 10-16 |
| C557 | 87-010-316-080 | | C-CAP,S 33P-50 CH |
| C558 | 87-010-315-080 | | C-CAP,S 27P-50 CH |
| C560 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C601 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C602 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C603 | 87-010-112-040 | | CAP,E 100-16 |
| C604 | 87-010-196-080 | | CHIP CAPACITOR,0.1-25 |
| C605 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C606 | 87-010-197-080 | | CAP, CHIP 0.01 DM |
| C607 | 87-010-313-080 | | CAP, CHIP 18P |
| C608 | 87-010-313-080 | | CAP, CHIP 18P |
| C609 | 87-010-178-080 | | CHIP CAP 1000P |
| C610 | 87-010-178-080 | | CHIP CAP 1000P |
| C611 | 87-010-178-080 | | CHIP CAP 1000P |
| C612 | 87-010-178-080 | | CHIP CAP 1000P |
| C613 | 87-010-403-040 | | CAP,E 3.3-50 SME |
| C614 | 87-010-403-040 | | CAP,E 3.3-50 SME |
| C615 | 87-010-318-080 | | C-CAP,S 47P-50 CH |
| C616 | 87-010-318-080 | | C-CAP,S 47P-50 CH |
| CN101 | 87-A60-424-010 | | CONN,16P V TOC-B |
| CN102 | 87-099-199-010 | | CONN,6P 6216 H |
| CN401 | 87-099-212-010 | | CONN,5P 6216 V |
| CN403 | 87-099-030-010 | | CONN,13P 6216H |
| J501 | 87-009-502-010 | | JACK,PIN 1P Y EARTH |
| L101 | 87-005-196-080 | | COIL,10UH |
| L301 | 87-A50-095-010 | | COIL,68UH RCR875D |
| L302 | 87-005-426-080 | | COIL,3.3UH K FLR50 |
| L502 | 87-005-204-080 | | COIL,47UH |
| L503 | 87-005-189-080 | | COIL 2.7UH |
| L504 | 87-005-187-080 | | COIL,1.8UH |
| L505 | 87-005-204-080 | | COIL,47UH |
| L506 | 87-005-204-080 | | COIL,47UH |
| L507 | 87-005-204-080 | | COIL,47UH |
| L508 | 87-005-817-080 | | C-COIL, 33UH J FLC32 |
| M401 | 87-045-305-010 | | MOTOR, RF-500TB DC-5V (2MA) |
| R130 | 87-022-364-080 | | C-RES,S 82K-1/10W F |
| R131 | 87-022-364-080 | | C-RES,S 82K-1/10W F |
| R132 | 87-022-364-080 | | C-RES,S 82K-1/10W F |
| R133 | 87-022-364-080 | | C-RES,S 82K-1/10W F |
| R134 | 87-022-364-080 | | C-RES,S 82K-1/10W F |
| R135 | 87-022-364-080 | | C-RES,S 82K-1/10W F |
| R507 | 87-A00-408-080 | | C-RES,S 2K-1/10W D |
| S201 | 87-A90-162-010 | | SW,SL 1-1-3 SSSU |
| S401 | 87-036-109-010 | | PUSH SWITCH |
| S402 | 87-036-109-010 | | PUSH SWITCH |
| W1 | 84-ZG1-673-010 | | F-CABLE,5P 1.25 210MM BLACK N |
| W2 | 85-NFT-611-110 | | FF-CABLE 16P-1.0 |
| W3 | 84-ZG1-630-010 | | CABLE FFC 6P-1.25 |
| X201 | 87-A70-124-080 | | VIB,CER 8.0MHZ |
| X501 | 87-A70-125-080 | | VIB,XTAL 27MHZ 50PPM |
| X601 | 87-030-270-080 | | VIB,XTAL 16.9344MHZ |

LED C.B

| REF. NO | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| LED401 | 87-070-200-080 | | LED,SLP636C-81-S-T1 |
| LED402 | 87-017-350-080 | | LED,SEL1550CM |
| LED403 | 87-017-350-080 | | LED,SEL1550CM |
| LED404 | 87-070-200-080 | | LED,SLP636C-81-S-T1 |

T-T C.B

| REF. NO | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| C401 | 87-018-214-080 | | CAP TC U 0.1-50F |
| CON401 | 86-NFZ-675-010 | | CONN,5P H 6216-11H |
| PS401 | 87-026-573-010 | | IC,GP1S53V |

DRIVE C.B

| REF. NO | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| CN3 | 87-009-349-010 | | CONN,6P H WHT PH |
| M20 | 87-045-358-010 | | MOT,RF-310TA 43 |
| M21 | 87-045-356-010 | | MOT,RF-310TA 30 |
| SW1 | 87-A90-042-010 | | SW,LEAF MSW-17310MVPO |

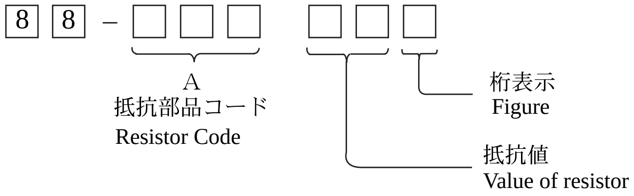
CD MOTOR C.B

| REF. NO | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| CN4 | 87-099-210-010 | | CONN,5P H BLK 6216 |
| M1 | 87-045-305-010 | | MOT,RF-500TB |
| SW1 | 87-035-110-010 | | SW,MICRO SPPB62 |
| SW2 | 87-035-110-010 | | SW,MICRO SPPB62 |

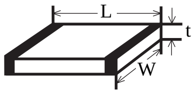
- Regarding connectors, they are not stocked as they are not the initial order items.
The connectors are available after they are supplied from connector manufacturers upon the order is received.

○ チップ抵抗部品コード / CHIP RESISTOR PART CODE

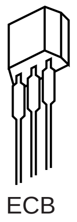
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding


8 8 – □□□ □□□
A
抵抗部品コード
Resistor Code
桁表示
Figure
抵抗値
Value of resistor

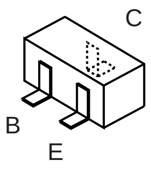
チップ抵抗
Chip resistor

| 容量<br>Wattage | 種類<br>Type | 許容誤差<br>Tolerance | 記号<br>Symbol | 寸法 / Diamensions (mm) | | | | 抵抗コード : A<br>Resistor Code : A |
|---|---|---|---|---|---|---|---|---|
| | | | | 外形 / Form | L | W | t | |
| 1/16W | 1608 | 5% | CJ |  | 1.6 | 0.8 | 0.45 | 108 |
| 1/10W | 2125 | 5% | CJ | | 2 | 1.25 | 0.45 | 118 |
| 1/8W | 3216 | 5% | CJ | | 3.2 | 1.6 | 0.55 | 128 |

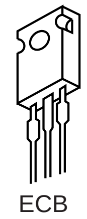
## TRANSISTOR ILLUSTRATION



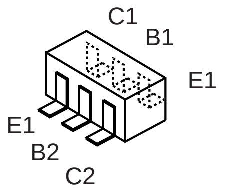
2SA933S



2SA1162
2SC2712
DTA123JK
DTA124XK
DTC124XK

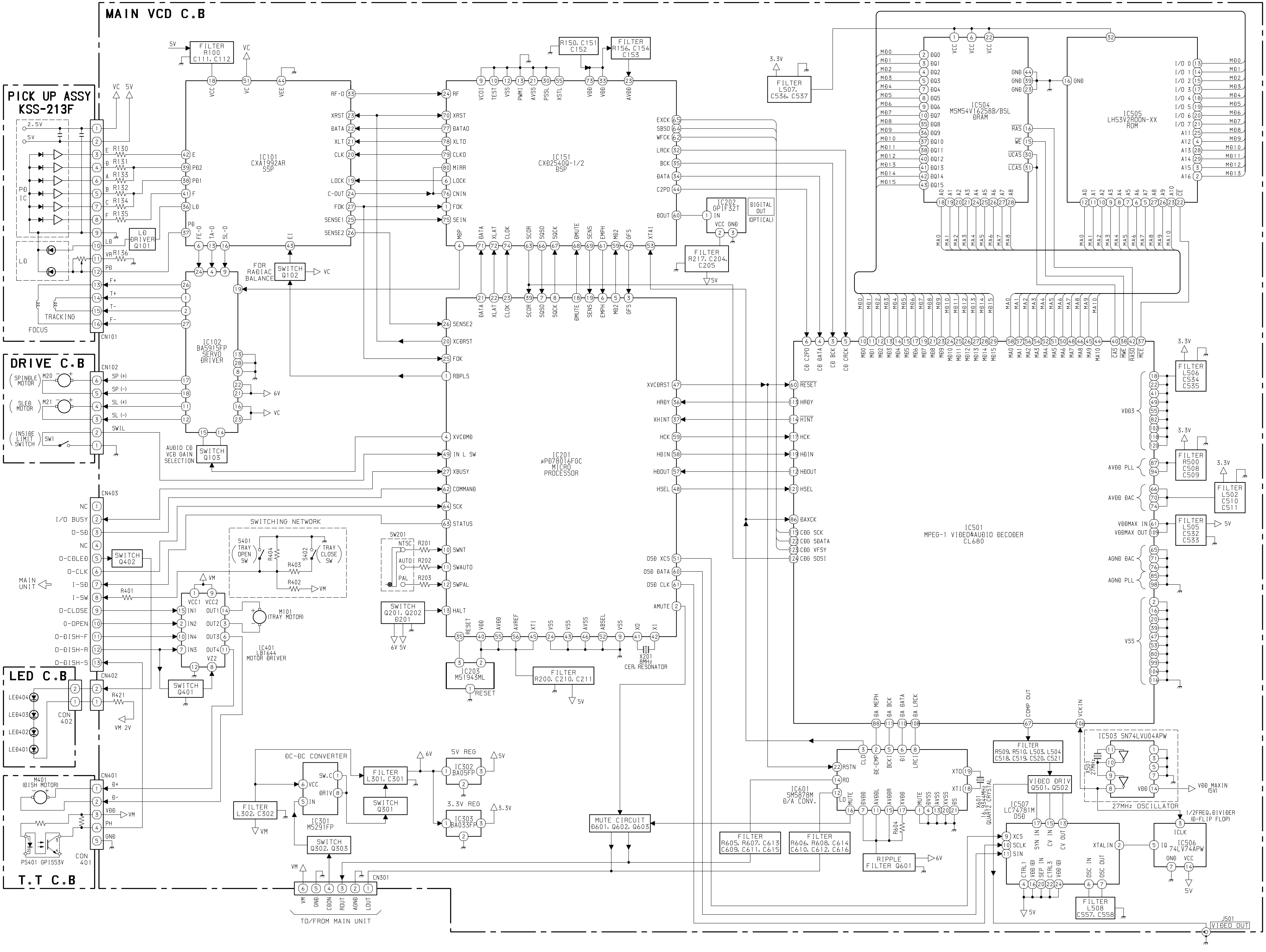


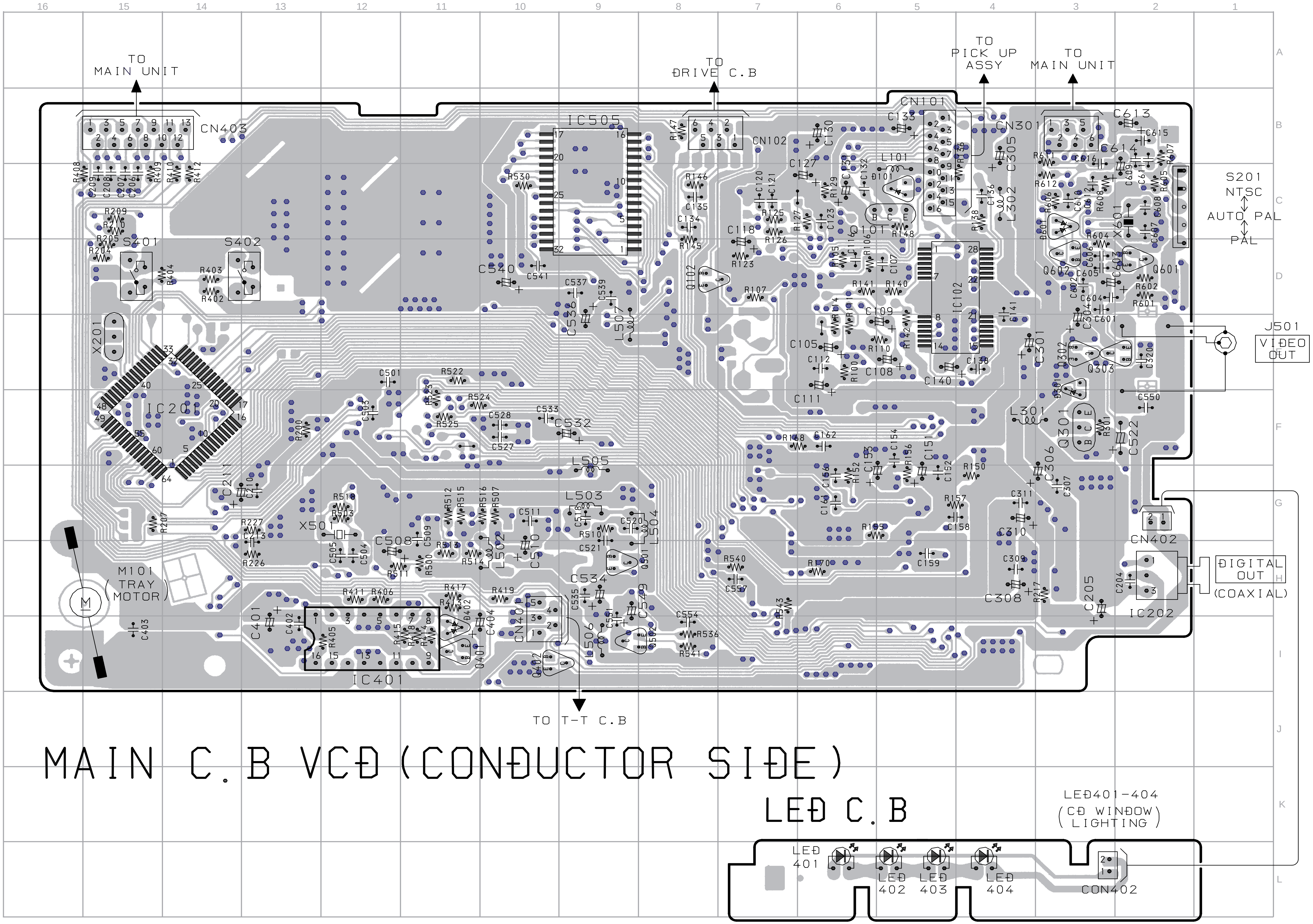
2SA1357


C1
B1
E1
E1
B2
C2

HN1C03F

# BLOCK DIAGRAM


MAIN VCD C.B
PICK UP ASSY
KSS-213F
2.5V
5V
PD
IC
LD
TRACKING
FOCUS
CN101
E R130
D R131
A R133
B R132
C R134
F R135
LD DRIVER Q101
VR R136
PD
F+
T+
T-
F-
FILTER R100 C111, C112
VC
5V
VEE
IC101 CXA1992AR SSP
RF-O
XRST
DATA
XLT
CLK
LOCK
C-OUT
FOK
SENSE1
SENSE2
FE-O
TA-O
SL-O
E1
FOR RADIAC BALANCE
SWITCH Q102
IC102 BA5915FP SERVO DRIVER
6V
AUDIO CD VCD GAIN SELECTION
SWITCH Q103
R150, C151 C152
FILTER R156, C154 C153
IC151 CXD2540Q-1/2 DSP
VCOI
TEST
VSS
PWMI
AVSS
PSSL
XSTL
VDD
AVDD
RF
XRST
DATAO
XLTO
CLKO
MIRR
LOCK
CNIN
FOK
SEIN
EXCK
SBSO
WFCK
LRCK
BCK
DATA
C2PO
DOUT
MDP
DATA
XLAT
CLOK
SCOR
SQSO
SQCK
DMUTE
SENS
EMPH
MD2
GFS
XTAI
IC202 GP1F32T
DIGITAL OUT (OPTICAL)
VCC GND
FILTER R217, C204, C205
5V
DRIVE C.B
CN102
SPINDLE MOTOR M20
SLED MOTOR M21
INSIDE LIMIT SWITCH SW1
SP (+)
SP (-)
SL (+)
SL (-)
SWIL
IC201 μPD78016FGC MICRO PROCESSOR
SENSE2
XCDRST
FOK
RBPLS
XVCDMD
IN L SW
XBUSY
COMMAND
SCK
STATUS
SWNT
SWAUTO
SWPAL
HALT
XVCDRST
HRDY
XHINT
HCK
HDIN
HDOUT
HSEL
OSD XCS
OSD DATA
OSD CLK
AMUTE
RESET
VDD
AVDD
AVREF
XTI
VSS
AVSS
ABSEL
XO
XI
X201 8MHz CER. RESONATOR
IC203 M51943ML
RESET
FILTER R200, C210, C211
5V
CN403
NC
I/O BUSY
O-SD
NC
O-CDLED
O-CLK
I-SD
I-SW
O-CLOSE
O-OPEN
O-DISH-F
O-DISH-R
O-DISH-S
MAIN UNIT
SWITCH Q402
R401
SWITCHING NETWORK
S401 TRAY OPEN SW
R404
R403
R402
S402 TRAY CLOSE SW
VM
SW201
NTSC
AUTO
PAL
R201
R202
R203
SWITCH Q201, Q202 D201
6V 5V
VCC1 VCC2
IN1 IN2 IN4 IN3
OUT1 OUT2 OUT3 OUT4
VZ2
IC401 LB1644 MOTOR DRIVER
M101 (TRAY MOTOR)
SWITCH Q401
LED C.B
LED404
LED403
LED402
LED401
CON 402
CN402
R421
VM 2V
T.T C.B
M401 (DISH MOTOR)
PS401 GP1S53V
CON 401
CN401
D+
D-
VDD
PH
GND
DC-DC CONVERTER
SW.C
VCC
DRIV
IN
IC301 M5291FP
FILTER L301, C301
SWITCH Q301
FILTER L302, C302
SWITCH Q302, Q303
5V REG
IC302 BA05FP
3.3V REG
IC303 BA033FP
3.3V
CN301
VM GND CDON ROUT AGND LOUT
TO/FROM MAIN UNIT
MUTE CIRCUIT D601, Q602, Q603
FILTER L507, C536, C537
IC504 MSM54V16258B/BSL DRAM
MD0 – MD15
DQ0 – DQ15
GND
RAS
WE
UCAS
LCAS
A0 – A8
MA0 – MA8
IC505 LH53V2R00N-XX ROM
I/O 0 – I/O 7
A11 – A16
CE
MA0 – MA10
IC501 MPEG-1 VIDEO&AUDIO DECODER CL680
CD C2PO
CD DATA
CD BCK
CD CRCK
CAS
MWE
RASO
MCE
RESET
HRDY
HINT
HCK
HDIN
HDOUT
HSEL
DAXCK
CDG SCK
CDG SDATA
CDG VFSY
CDG SOSI
VDD3
FILTER L506 C534 C535
AVDD PLL
FILTER R500 C508 C509
AVDD DAC
FILTER L502 C510 C511
VDDMAX IN
VDDMAX OUT
FILTER L505 C532 C533
AGND DAC
AGND PLL
VSS
DA MEPH
DA BCK
DA DATA
DA LRCK
COMP OUT
VCKIN
IC601 SM5878M D/A CONV.
CLO
DE-EMP
BCKI
DI
LRCI
RSTN
RO
LO
MUTE
DVDD
AVDDL
AVDDR
XVDD
DVSS
AVSS
XVSS
DS
XTO
XTI
X601 16.9344MHz QUARTZ CRYSTAL
R604
RIPPLE FILTER Q601
FILTER R605, R607, C613 C609, C611, C615
FILTER R606, R608, C614 C610, C612, C616
FILTER R509, R510, L503, L504 C518, C519, C520, C521
VIDEO DRIV Q501, Q502
IC507 LC74781M OSD
XCS
SCLK
SIN
SYN IN
CV IN
CV OUT
XTALIN
CTRL1
VDD
SEP IN
CTRL3
OSC IN
OSC OUT
FILTER L508 C557, C558
IC503 SN74LVU04APW
X501 27MHz
27MHz OSCILLATOR
VDD MAXIN (5V)
1/2FREQ.DIVIDER (D-FLIP FLOP)
ICLK
IC506 74LV74APW
GND VCC
J501 VIDEO OUT


16
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4
3
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1
A
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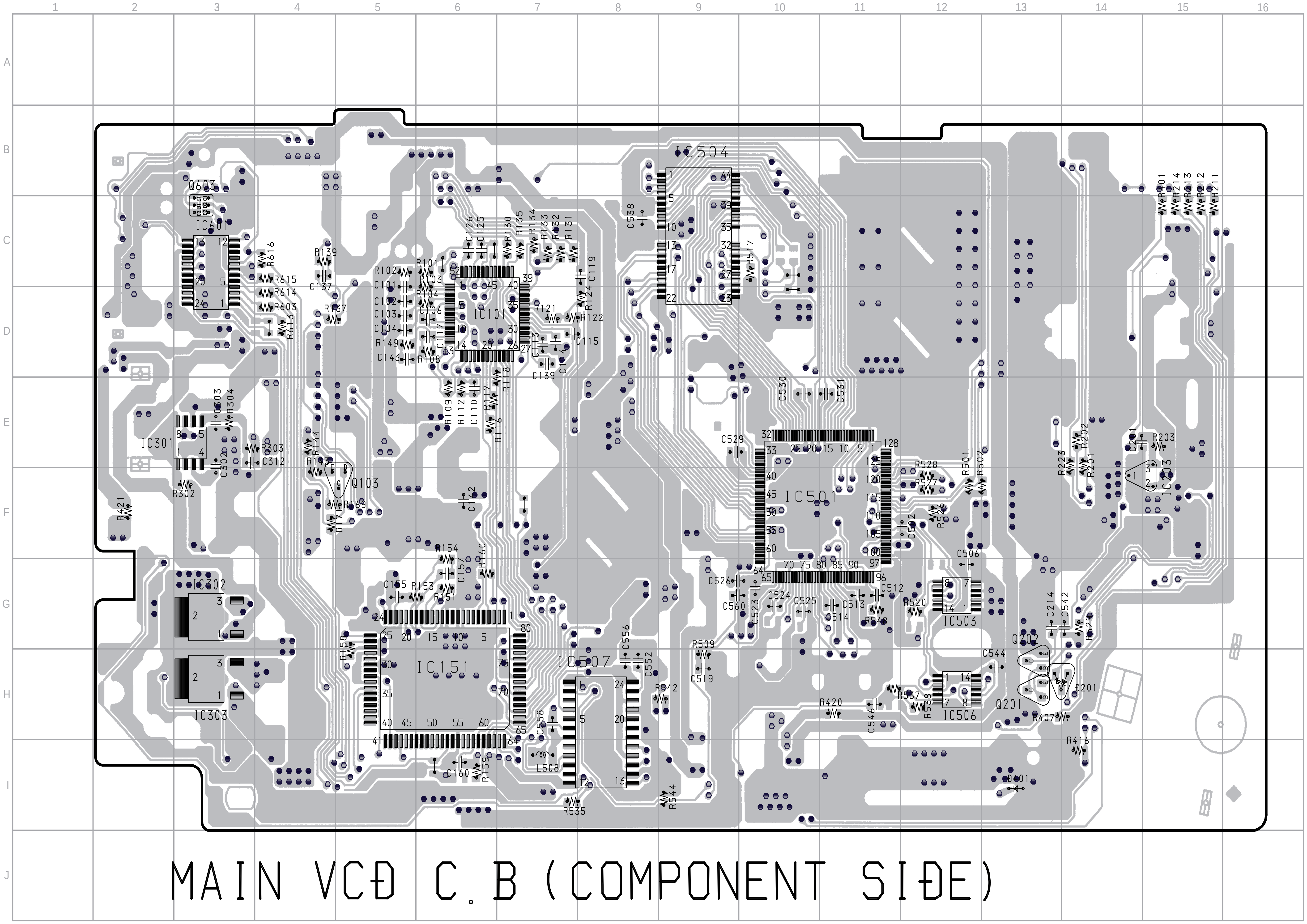
C
D
E
F
G
H
I
J
K
L
TO MAIN UNIT
TO DRIVE C.B
TO PICK UP ASSY
TO MAIN UNIT
CN403
IC505
CN102
CN101
CN301
C613
S201
NTSC
AUTO
PAL
PAL
J501
VIDEO OUT
S401
S402
X201
IC201
IC102
Q101
Q102
Q601
Q602
Q301
Q302
Q303
X601
L101
L301
L302
L503
L504
L505
L506
L507
X501
C540
C532
C534
C508
M101
TRAY MOTOR
IC401
CN401
Q401
Q402
CN402
IC202
DIGITAL OUT
(COAXIAL)
TO T-T C.B
LED401-404
(CD WINDOW LIGHTING)
LED 401
LED 402
LED 403
LED 404
CON402

## MAIN C.B VCD (CONDUCTOR SIDE)

## LED C.B


1
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A
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D
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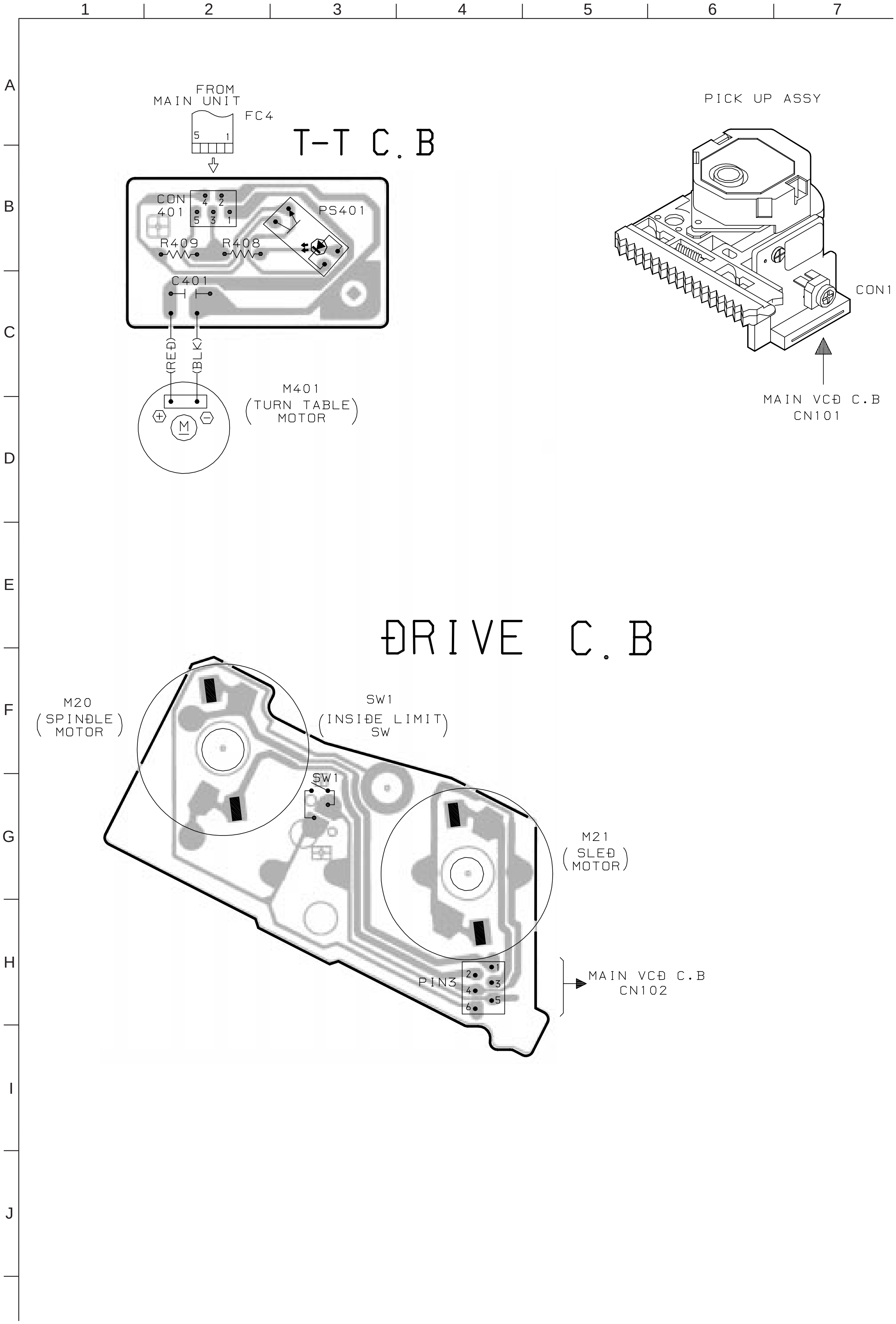
F
G
H
I
J
Q603
IC601
R616
R615
R614
R603
R613
R139
C137
R137
R102
R101
R103
R104
C101
C102
C103
C104
C106
C117
R149
C143
R108
IC101
C126
C125
R130
R135
R134
R133
R132
R131
C119
R124
R121
R122
C113
C114
C115
C139
R109
R112
C110
R117
R116
R118
IC504
C538
R517
C530
C531
IC301
C303
R304
R303
C312
C302
R302
R144
R143
Q103
R163
R171
R421
C142
IC501
C529
R528
R527
R501
R502
R529
C532
C506
R154
R160
C157
C155
R153
R151
IC302
IC303
R158
IC151
R159
C160
C526
C560
C523
C524
C525
C513
C514
C512
R520
R548
IC503
IC507
C556
C552
R509
C519
R542
C558
L508
R535
R544
R420
C546
R537
R538
IC506
C544
Q202
Q201
D201
R407
R416
D401
C214
C542
R529
R223
R202
R201
C201
R203
IC203
R201
R214
R213
R212
R211

MAIN VCD C.B (COMPONENT SIDE)

WIRING-3


1
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A
B
C
D
E
F
G
H
I
J
FROM
MAIN UNIT
FC4
5
1
T-T C.B
CON
401
4
2
5
3
1
PS401
R409
R408
C401
(RED)
(BLK)
M401
(TURN TABLE
MOTOR)
M
PICK UP ASSY
CON1
MAIN VCD C.B
CN101
DRIVE C.B
M20
(SPINDLE
MOTOR)
SW1
(INSIDE LIMIT
SW)
SW1
M21
(SLED
MOTOR)
PIN3
1
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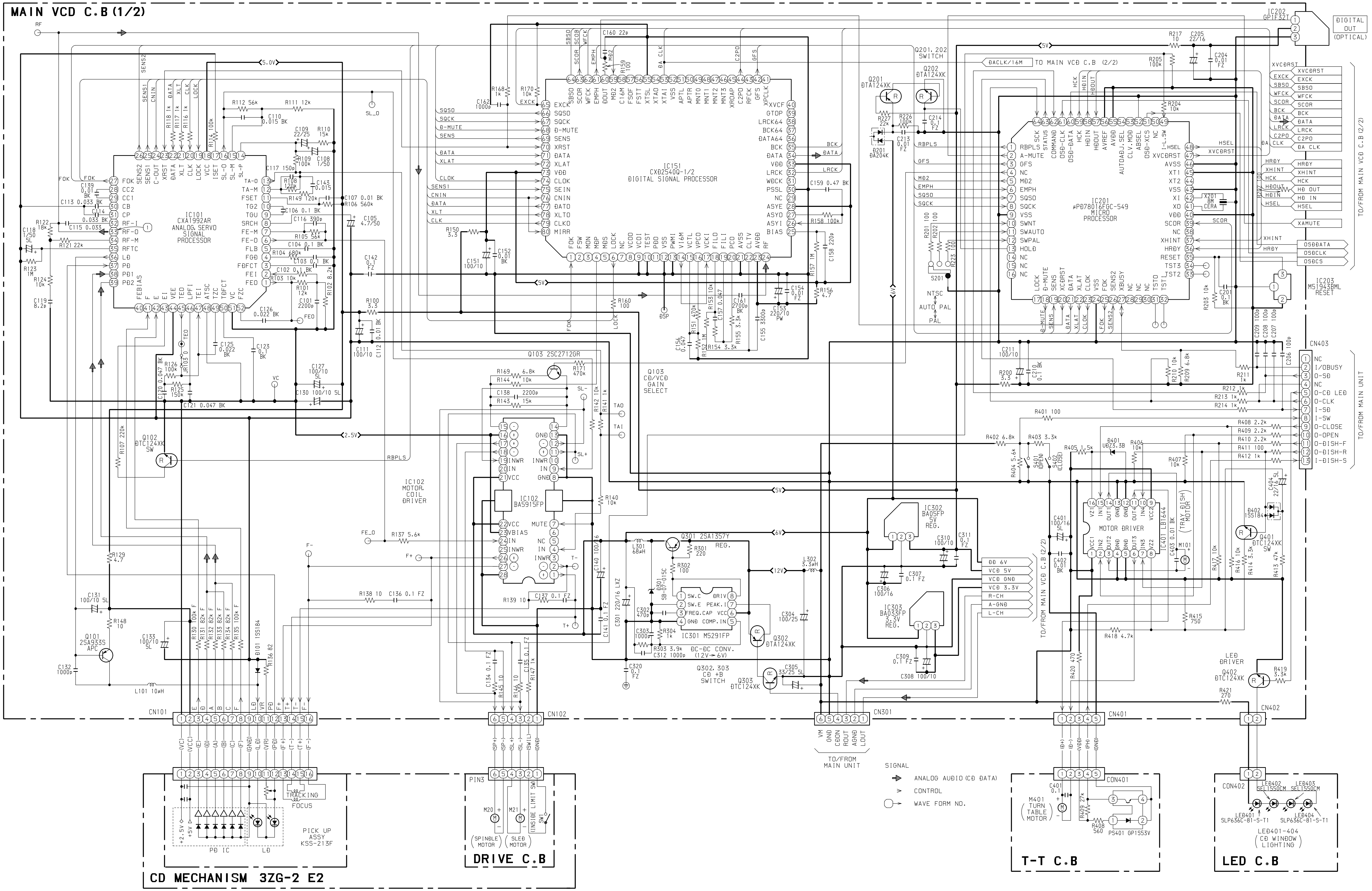
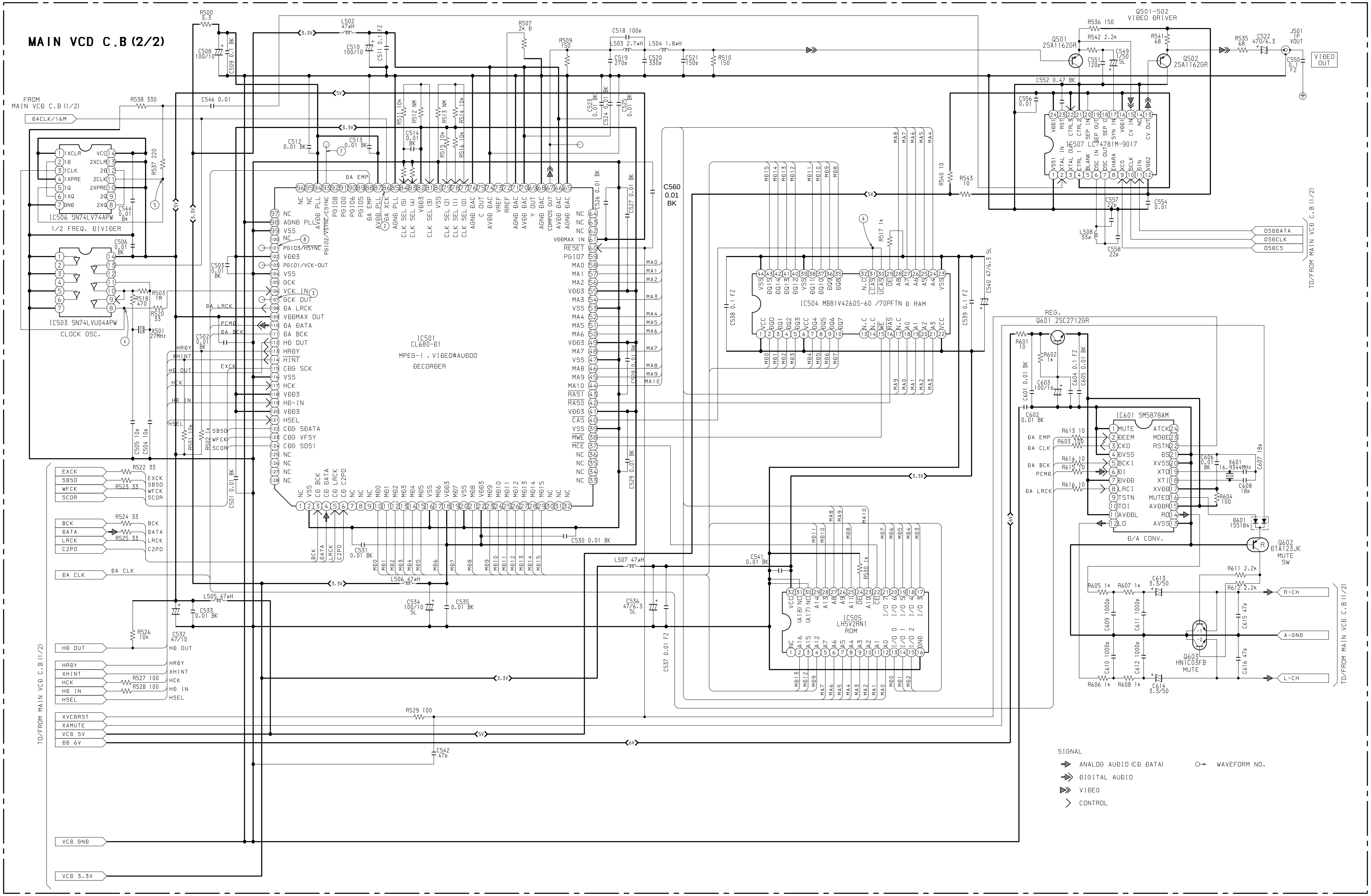
4
5
6
MAIN VCD C.B
CN102

# SCHEMATIC DIAGRAM-1

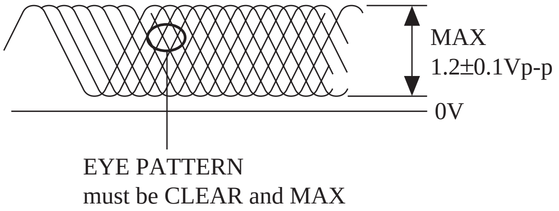

MAIN VCD C.B (1/2)
RF
IC101 CXA1992AR ANALOG SERVO SIGNAL PROCESSOR
IC151 CXD2540Q-1/2 DIGITAL SIGNAL PROCESSOR
IC201 μPD78016FGC-549 MICRO PROCESSOR
IC202 GP1F32T
DIGITAL OUT (OPTICAL)
IC203 M51943BML RESET
IC102 MOTOR COIL DRIVER
IC102 BA5915FP
Q103 2SC2712GR
Q103 CD/VCD GAIN SELECT
Q101 2SA933S APC
Q102 DTC124XK SW
Q201 DTA124XK
Q202 DTA124XK
Q201, 202 SWITCH
Q301 2SA1357Y REG.
IC301 M5291FP
DC-DC CONV. (12V→6V)
Q302, 303 CD +B SWITCH
Q302 DTA124XK
Q303 DTC124XK
IC302 BA05FP 5V REG.
IC303 BA033FP 3.3V REG.
IC401 LB1644 MOTOR DRIVER
(TRAY DISH) MOTOR
Q401 DTC124XK SW
Q402 DTC124XK
LED DRIVER
D402 1SS184
D401 UDZ3.3B
TO MAIN VCD C.B (2/2)
TO/FROM MAIN VCD C.B (2/2)
TO/FROM MAIN UNIT
NTSC
AUTO PAL
PAL
S201
CN101
CN102
CN301
CN401
CN402
CN403
DD 6V
VCD 5V
VCD GND
VCD 3.3V
R-CH
A-GND
L-CH
NC
I/OBUSY
O-SD
I-SD
O-CD LED
O-CLK
I-SW
O-CLOSE
O-OPEN
O-DISH-F
O-DISH-R
I-DISH-S
VM
GND
CDON
ROUT
AGND
LOUT
TO/FROM MAIN UNIT
SIGNAL
ANALOG AUDIO (CD DATA)
CONTROL
WAVE FORM NO.
TRACKING
FOCUS
PICK UP ASSY KSS-213F
PD IC
LD
CD MECHANISM 3ZG-2 E2
PIN3
M20
M21
(SPINDLE) MOTOR
(SLED) MOTOR
(INSIDE LIMIT SW)
SW1
DRIVE C.B
CON401
M401 TURN TABLE MOTOR
PS401 GP1S53V
T-T C.B
CON402
LED402 SEL1550CM
LED403 SEL1550CM
LED401 SLP636C-81-5-T1
LED404 SLP636C-81-5-T1
LED401-404 (CD WINDOW LIGHTING)
LED C.B

# SCHEMATIC DIAGRAM-2

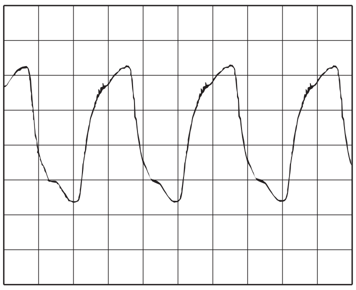

MAIN VCD C.B (2/2)
FROM MAIN VCD C.B (1/2)
DACLK/16M
IC506 SN74LV74APW
1/2 FREQ. DIVIDER
IC503 SN74LVU04APW
CLOCK OSC.
X501 27MHz
IC501 CL680-01
MPEG-1 . VIDEO&AUDIO DECORDER
IC504 MB81V4260S-60 /70PFTN D RAM
IC505 LH5V2RN1 ROM
IC507 LC74781M-9017
Q501-502 VIDEO DRIVER
Q501 2SA1162GR
Q502 2SA1162GR
J501 1P VOUT
VIDEO OUT
REG. Q601 2SC2712GR
IC601 SM5878AM
D/A CONV.
X601 16.9344MHz
D601 1SS184
Q602 DTA123JK MUTE SW
Q603 HN1C03FB MUTE
R-CH
A-GND
L-CH
TO/FROM MAIN VCD C.B (1/2)
OSDDATA
OSDCLK
OSDCS
C560 0.01 BK
EXCK
SBSO
WFCK
SCOR
BCK
DATA
LRCK
C2PO
DA CLK
HD OUT
HRDY
XHINT
HCK
HD IN
HSEL
XVCDRST
XAMUTE
VCD 5V
DD 6V
VCD GND
VCD 3.3V
SIGNAL
ANALOG AUDIO (CD DATA)
DIGITAL AUDIO
VIDEO
CONTROL
WAVEFORM NO.

# WAVE FORM

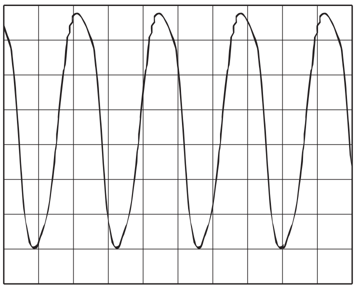
①
IC101 Pin ㉝ (RF-O)
VOLT/DIV: 200mV
TIME/DIV: 0.5µS



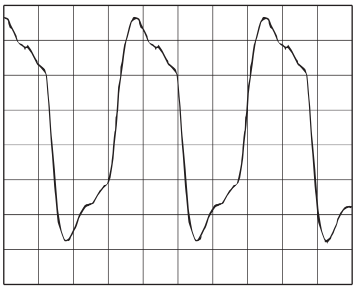
②
IC501 Pin (86) DA XCK
16.93MHz
VOLT/DIV: 1V
TIME/DIV: 20nS



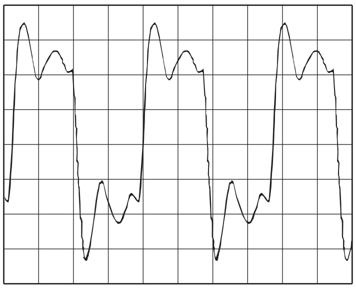
③
IC501 Pin (107) GCK OUT
42.3MHz
VOLT/DIV: 1V
TIME/DIV: 10nS



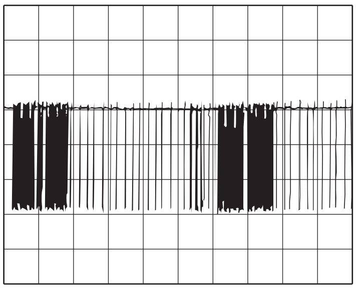
④
IC503 Pin ⑧ 33 VCK
27MHz±1.35kHz
VOLT/DIV: 1V
TIME/DIV: 10nS



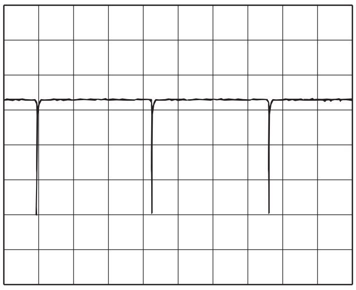
⑤
IC506 Pin ⑪ OSD CLK
13.5MHz±675Hz
VOLT/DIV: 1V
TIME/DIV: 20nS



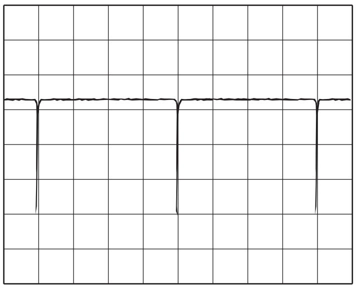
⑥
IC504 Pin ㉚ $\overline{\text{UCAS}}$
(Pin ㉛ $\overline{\text{LCAS}}$)
VOLT/DIV: 1V
TIME/DIV: 2µS



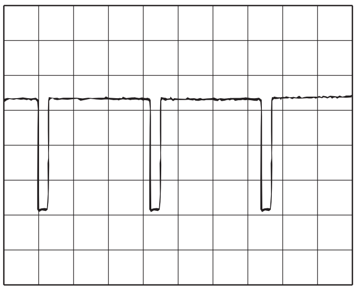
⑦
IC501 Pin (93) $\overline{\text{VSync}}$
NTSC
VOLT/DIV: 1V
TIME/DIV: 5mS



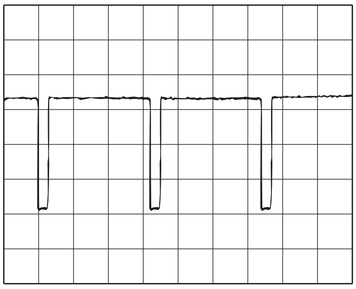
⑧
IC501 Pin (93) $\overline{\text{VSync}}$
PAL
VOLT/DIV: 1V
TIME/DIV: 5mS



⑧
IC501 Pin (101) $\overline{\text{HSync}}$
PAL
VOLT/DIV: 1V
TIME/DIV: 20µS



IC501 Pin (101) $\overline{\text{HSync}}$
NTSC
VOLT/DIV: 1V
TIME/DIV: 20µS



# IC DESCRIPTION

## IC, CXA1992AR

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1 | FEO | O | Output terminal for focus error amplifier. Internally connected to window comparator input for bias condition. |
| 2 | FEI | I | Input terminal for focus error. |
| 3 | FDFCT | I | Capacitor connection terminal for time constant used when there is defect. |
| 4 | FGD | I | This pin is connected to GND via capacitor when high frequency gain of the focus servo is attenuated. |
| 5 | FLB | I | This is a pin where the time constant is externally connected to raise the low frequency gain of the focus servo. |
| 6 | FE_O | O | Focus drive output. |
| 7 | FEM | I | Focus amplifier inverted input pin. |
| 8 | SRCH | I | This is a pin where the time constant is externally connected to generate the focus search waveform. |
| 9 | TGU | I | This is a pin where the selection time constant is externally connected to set the tracking servo the high frequency gain. |
| 10 | TG2 | I | This is a pin where the selection time constant is externally connected to set the tracking high frequency gain. |
| 11 | FSET | I | Pin for setting peak of the phase compensator of the focus tracking. |
| 12 | TA_M | I | Tracking amplifier inverted input pin. |
| 13 | TA_O | O | Tracking drive output. |
| 14 | SL_P | I | Sled amplifier non-inverted input pin. |
| 15 | SL_M | I | Sled amplifier inverted input pin. |
| 16 | SL_O | O | Sled drive output. |
| 17 | ISET | I | The current which determines height of the focus search, track jump and sled kick is input with external resistance connected. |
| 18 | Vcc | I | Power supply. |
| 19 | LOCK | I | “L” setting starts sled disorder-prevention circuit. (Not pull-up resistance) |
| 20 | CLK | I | Clock input for serial data transfer from CPU. (No pull-up resistance) |
| 21 | XLT | I | Latch input from CPU. (No pull-up resistance) |
| 22 | DATA | I | Serial data input from CPU. (No pull-up resistance) |
| 23 | XRST | I | Reset system at “L” setting. (No pull-up resistance) |
| 24 | C_OUT | O | Signal output for track number counting. |
| 25 | SENS1 | O | FZC, DFCT1, TZC, BALH, TGH, FOH, or ATSC is output depending on the command from CPU. |
| 26 | SENS2 | O | DFCT2, MIRR, BALL, TGL or FOL is output depending on the command from CPU. |
| 27 | FOK | O | Output terminal for focus OK comparator. |
| 28 | CC2 | I | Input pin where the DEFECT bottom hold output is capacitance coupled. |
| 29 | CC1 | O | DEFECT bottom-hold output terminal. Internally connected to interruption comparator input. |
| 30 | CB | I | Connection terminal for DEFECT bottom-hold capacitor. |
| 31 | CP | I | Connection terminal for MIRR hold-capacitor.<br>Anti-reverse input terminal for MIRR comparator. |

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 32 | RF_I | I | Input terminal by capacity combination of RF summing amplifier. |
| 33 | RF_O | O | Output terminal of RF summing amplifier. Checkpoint of Eye pattern. |
| 34 | RF_M | I | Anti-reverse input terminal for RF summing amplifier.<br>The gain of RF amplifier is decided by the connection resistance between RF_M and RFO terminals. |
| 35 | RFTC | I | This is a pin where the selection time constant is externally connected to control the RF level. |
| 36 | LD | O | APC amplifier output terminal. |
| 37 | PD | I | APC amplifier input terminal. |
| 38, 39 | PD1, PD2 | I | RFI-V amplifier inverted input pin.<br>These pins are connected to the A+C and B+C pins of the optical pickup, receiving by currents input. |
| 40 | FEBIAS | I/O | Bias adjustment pin of the focus error amplifier. |
| 41, 42 | F, E | I | F and EIV amplifier inverted input pins.<br>These pins are connected to the F and E of the optical pickup, receiving by current input. |
| 43 | EI | — | Gain adjustment pin of the I-V amplifier E. (When not in use of BAL automatic adjustment) |
| 44 | VEE | — | GND connection pin. |
| 45 | TEO | O | Output terminal for tacking-error amplifier. Output E-F signal. |
| 46 | LPFI | I | BAL adjustment comparator input pin. (Input through LPF from TEO) |
| 47 | TEI | I | Input terminal for tracking error. |
| 48 | ATSC | I | Window-comparator input terminal for detecting ATSC. |
| 49 | TZC | I | Input terminal for tracking-zero cross comparator. |
| 50 | TDFCT | I | Capacitor connection pin for the time constant used when there is defect. |
| 51 | VC | O | Output terminal for DC voltage reduced to half of VCC+VEE. |
| 52 | FZC | I | Input terminal for focus-zero cross comparator. |

## IC, CXD2540Q

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1 | FOK | I | Focus OK input. Used for SENS output and the servo auto sequencer. |
| 2 | FSW | O | Spindle motor output filter switching output. |
| 3 | MON | O | Spindle motor on/off control output. |
| 4 | MDP | O | Spindle motor servo control. |
| 5 | MDS | O | |
| 6 | LOCK | O | High, when sampled value of GFS at 460Hz is high.<br>Low, when sampled value of GFS at 460Hz is low by 8 times successively. |
| 7 | NC | | |
| 8 | VCOO | O | Analog EFM PLL oscillation circuit output. |
| 9 | VCOI | I | Analog EFM PLL oscillation circuit input. fLOCK=8.6436MHz. |
| 10 | TEST | I | TEST pin. |
| 11 | PDO | O | Analog EFM PLL charge pump output. |
| 12 | VSS | | GND. |
| 13 | PWMI | I | Spindle motor external control input. |
| 14 | V16M | O | VCO2 oscillation output for the wide-band EFM PLL. |
| 15 | VCTL | I | VCO2 control voltage input for the wide-band EFM PLL. |
| 16 | VPCO | O | Wide-band EFM PLL charge pump output. |
| 17 | VCKI | I | VCO2 oscillation input for the wide-band EFM PLL. |
| 18 | FILO | O | Multiplier PLL (slave=digital PLL) filter output. |
| 19 | FILI | I | Multiplier PLL filter input. |
| 20 | PCO | O | Multiplier PLL charge pump output. |
| 21 | AVSS | | Analog GND. |
| 22 | CLTV | I | Multiplier VCO1 control voltage input. |
| 23 | AVDD | | Analog power supply (5V). |
| 24 | RF | I | EFM signal input. |
| 25 | BIAS | I | Constant current input of the asymmetry circuit. |
| 26 | ASYI | I | Asymmetry comparator voltage input. |
| 27 | ASYO | O | EFM full-swing output. |
| 28 | ASYE | I | Low: asymmetry circuit off; high: asymmetry circuit on. |
| 29 | NC | | |
| 30 | PSSL | I | Audio data output mode switching input. Low: serial output; high: parallel output. |
| 31 | WDCK | O | D/A interface for 48-bit slot. Word clock f=2Fs. |
| 32 | LRCK | O | D/A interface for 48-bit slot. LR clock f=Fs. |
| 33 | VDD | | Power supply (5V). |
| 34 | DA16 | O | DA16 (MSB) output when PSSL=1.<br>48-bit slot serial data (two's complement, MSB first) when PSSL=0. |
| 35 | DA15 | O | DA15 output when PSSL=1. 48-bit slot bit clock when PSSL=0. |
| 36 | DA14 | O | DA14 output when PSSL=1.<br>64-bit slot serial data (two's complement, LSB first) when PSSL=0. |
| 37 | DA13 | O | DA13 output when PSSL=1. 64-bit slot bit clock when PSSL=0. |
| 38 | DA12 | O | DA12 output when PSSL=1. 64-bit slot LR clock when PSSL=0. |

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 39 | DA11 | O | DA11 output when PSSL=1.  GTOP output when PSSL=0. |
| 40 | DA10 | O | DA10 output when PSSL=1.  XUGF output when PSSL=0. |
| 41 | DA09 | O | DA09 output when PSSL=1.  XPLCK output when PSSL=0. |
| 42 | DA08 | O | DA08 output when PSSL=1.  GFS output when PSSL=0. |
| 43 | DA07 | O | DA07 output when PSSL=1.  RFCK output when PSSL=0. |
| 44 | DA06 | O | DA06 output when PSSL=1.  C2PO output when PSSL=0. |
| 45 | DA05 | O | DA05 output when PSSL=1.  XRAOF output when PSSL=0. |
| 46 | DA04 | O | DA04 output when PSSL=1.  MNT3 output when PSSL=0. |
| 47 | DA03 | O | DA03 output when PSSL=1.  MNT2 output when PSSL=0. |
| 48 | DA02 | O | DA02 output when PSSL=1.  MNT1 output when PSSL=0. |
| 49 | DA01 | O | DA01 output when PSSL=1.  MNT0 output when PSSL=0. |
| 50 | APTR | O | Aperture compensation control output.<br>This pin outputs a high signal when the right channel is used. |
| 51 | APTL | O | Aperture compensation control output.<br>This pin outputs a high signal when the left channel is used. |
| 52 | VSS |  | GND. |
| 53 | XTAI | I | Crystal oscillation circuit input. |
| 54 | XTAO | O | Crystal oscillation circuit output. |
| 55 | XTSL | I | Crystal selector input. |
| 56 | FSTT | O | 2/3 frequency divider output for Pins 53 and 54. |
| 57 | FSOF | O | 1/4 frequency divider output for Pins 53 and 54. |
| 58 | C16M | O | 16.9344MHz output.  (V16M output in CLV-W and CAV-W modes) |
| 59 | MD2 | I | Digital-out on/off control.  High: on; low: off |
| 60 | DOUT | O | Digital-out output. |
| 61 | EMPH | O | Outputs a high signal when the playback disc has emphasis, and a low signal when there is no emphasis. |
| 62 | WFCK | I | WFCK (write frame clock) output. |
| 63 | SCOR | O | Outputs a high signal when either subcode sync S0 or S1 is detected. |
| 64 | SBSO | O | Sub P to W serial output. |
| 65 | EXCK | I | SBSO readout clock input. |
| 66 | SQSO | O | Sub Q 80-bit and PCM peak, level metter and internal status outputs. |
| 67 | SQCK | I | SQSO readout clock input. |
| 68 | MUTE | I | High: mute; low: release |
| 69 | SENS | — | SENS output to CPU. |
| 70 | XRST | I | System reset.  Reset when low. |
| 71 | DATA | O | Serial data input from CPU. |
| 72 | XLAT | O | Latch input from CPU.  Serial data is latched at the falling edge. |
| 73 | VDD |  | Power supply (5V). |
| 74 | CLOK | O | Serial data transfer clock input from CPU. |
| 75 | SEIN | I | SENS input from SSP. |
| 76 | CNIN | I | Track jump count signal input. |

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 77 | DATO | O | Serial data output to SSP. |
| 78 | XLTO | O | Serial data latch output to SSP. Latched at the falling edge. |
| 79 | CLKO | O | Serial data transfer clock output to SSP. |
| 80 | MIRR | I | Mirror signal input. Used when the number of tracks is 128 or more for the 2N-track jump and M track move of the auto sequencer. |

Notes)

- The 64-bit slot is an LSB first, two’s complement output, and the 48-bit slot is an MSB first, two’s complement output.
- GTOP is used to monitor the frame sync protection status. (High: sync protection window open.)
- XUGF is the negative pulse for the frame sync obtained from the EFM signal. It is the signal before sync protection.
- XPLCK is the inverse of the EFM PLL clock. The PLL is designed so that the falling edge and the EFM signal transition point coincide.
- GFS goes high when the frame sync and the insertion protection timing match.
- RFCK is derived from the crystal accuracy, and has a cycle of 136µ.
- C2PO represents the data error status.
- XRAOF is generated when the 32K RAM exceeds the ±28F jitter margin.

## IC, CL680

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1 | NC | — | No connection. |
| 2 | VSS | — | GND. |
| 3 | CD BCK | I | Bit clock input from CD DSP. |
| 4 | CD DATA | I | Data input from CD DSP. |
| 5 | CD LRCK | I | LRCK input from CD DSP. |
| 6 | CD C2PO | I | C2 pointer input from CD DSP. |
| 7-9 | NC | — | No connection. |
| 10-15 | MD0-MD5 | I/O | DRAM/ROM interface. (DATA) |
| 16 | VSS | — | Ground. |
| 17 | MD6 | I/O | DRAM/ROM interface. (DATA) |
| 18 | VDD3 | — | Power supply 3.3V. |
| 19 | MD7 | I/O | DRAM/ROM interface. (DATA) |
| 20 | VSS | — | Ground. |
| 21 | MD8 | I/O | DRAM/ROM interface. (DATA) |
| 22 | VDD3 | — | Power supply 3.3V. |
| 23-29 | MD9-MD15 | I/O | DRAM/ROM interface. (DATA) |
| 30-36 | NC | — | No connection. |
| 37 | $\overline{\text{MCE}}$ | — | ROM chip enable. |
| 38 | $\overline{\text{MWE}}$ | O | DRAM write enable. |
| 39 | VSS | — | Ground. |
| 40 | $\overline{\text{CAS}}$ | O | DRAM/ROM interface. |
| 41 | VDD3 | — | Power supply 3.3V. |
| 42 | $\overline{\text{RASO}}$ | O | DRAM/ROM interface. |
| 43 | $\overline{\text{RASI}}$ | O | |
| 44-46 | MA10-MA8 | O | DRAM/ROM interface. (Address) |
| 47 | VSS | — | Ground. |
| 48 | MA7 | O | DRAM/ROM interface. (Address) |
| 49 | VDD3 | — | Power supply 3.3V. |
| 50-52 | MA6-MA4 | O | DRAM/ROM interface. (Address) |
| 53 | VSS | — | Ground. |
| 54 | MA3 | O | DRAM/ROM interface. (Address) |
| 55 | VDD3 | — | Power supply 3.3V. |
| 56-58 | MA2-MA0 | O | DRAM/ROM interface. (Address) |
| 59 | PGIO7 | I/O | Programmable I/O. |
| 60 | $\overline{\text{RESET}}$ | I | Reset input. |
| 61 | VDD MAX IN | — | Power supply - VDDMAX. (5.0V) |
| 62-64 | NC | — | No connection. |
| 65 | AGND DAC | — | Analog ground. |
| 66 | A DAC | — | Analog power supply (DAC) : 3.3V. |
| 67 | COMP OUT | O | Composite out. |
| 68 | AGND DAC | — | Analog ground. |

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 69 | Y OUT | O | Video signal “Y” OUT. |
| 70 | AVDD DAC | — | Analog power supply (DAC) 3.3V. |
| 71 | AGND DAC | — | Analog ground. |
| 72 | R REF | I | Reference resistor input. |
| 73 | V REF | I | Voltage reference input. |
| 74 | AVDD DAC | — | Analog power supply (DAC) : 3.3V. |
| 75 | C OUT | O | Video signal “C” out. |
| 76 | AGND DAC | — | Analog ground. |
| 77-79 | CLK SEL0-2 | I | Clock selection input. |
| 80 | VSS | — | Ground. |
| 81 | CLK SEL3 | I | Clock selection input. |
| 82 | VDD3 | — | Power supply 3.3V. |
| 83, 84 | CLK SEL4, 5 | I | Clock selection input. |
| 85 | AGND PLL | — | Analog ground. |
| 86 | DA XCK | I | DA XCK (16.933MHz) input. |
| 87 | AVDD PLL | — | Analog power supply 3.3V. |
| 88 | DA EMP | O | DAC-emphasis output. |
| 89, 90 | PGIO5, O6 | I/O | Programmable I/O. |
| 91 | PGIO0 | I/O | |
| 92 | PGIO8 | I/O | |
| 93 | $\overline{\text{VSYNC}}$/$\overline{\text{CSYNC}}$ | O | $\overline{\text{VSYNC}}$/$\overline{\text{CSYNC}}$ output. |
| 94 | AVDD PLL | — | Analog power supply (PLL) 3.3V. |
| 95 | VID_DAC_CK | O | Video DAC clock. |
| 96 | PROC_CK | O | Processor clock. |
| 97 | AUD_XCK | O | Audio XCK. |
| 98 | AGND PLL | — | Analog ground. |
| 99 | VSS | — | Ground. |
| 100 | NC | — | No connection. |
| 101 | $\overline{\text{HSYNC}}$ | O | $\overline{\text{HSYNC}}$ output. |
| 102 | VDD3 | — | Power supply 3.3V. |
| 103 | VCK OUT | O | VCK out. |
| 104 | VSS | — | Ground. |
| 105 | GCK | I | Global clock signal input. (42.3MHz) |
| 106 | VCK | I | Video clock signal input. (27.0MHz) |
| 107 | GCK OUT | O | Global clock signal output. (27.0MHz) |
| 108 | DA LRCK | O | DAC-LRCK output. |
| 109 | VDD MAX OUT | — | Power supply (VDD MAX) : 5.0V. |
| 110 | DA DATA | O | DAC-PCM data output. |
| 111 | DA BCK | O | DAC-BIT clock output. |
| 112 | HD OUT | O | Micon interface. (Data out) |
| 113 | HRDY | O | Micon interface. (Host ready) |

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 114 | $\overline{\text{HINT}}$ | O | Micon interface. (Host interrupt) |
| 115 | CDG SCK | I | CD-G serial clock input. |
| 116 | VSS | — | Ground. |
| 117 | HCK | I | Micon interface. (Host clock) |
| 118 | VDD3 | — | Power supply 3.3V. |
| 119 | HD IN | I | Micon interface. (Host data in) |
| 120 | VDD3 | — | Power supply 3.3V. |
| 121 | HSEL | I | Micon interface. (Host select in) |
| 122 | CDG DATA | I | CD-G data input. |
| 123 | CDG VFSY | I | CD-G VFSY input. |
| 124 | CDG SOSI | I | CD-G SOSI input. |
| 125 | DSP-XCK | O | DSP-XCK output. |
| 126-128 | NC | — | No connection. |

# IC, LC74781M

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1 | VSS1 | — | GND connection terminal. (Digital ground terminal). |
| 2 | Xtal IN | I | External X’tal and capacitor for internal sync generator, or the external clock are connected to this terminal. (2fsc or 4fsc). |
| 3 | Xtal OUT | O | |
| 4 | CTRL1 | I | Either the external clock input mode or the X’tal generator mode is selected by this selector terminal. L: X’tal generator mode, H: External clock input. |
| 5 | BLANK | O | Blank signal (character and the green ORed signal) is output from this terminal. (MODE 0: composite sync signal is output at H.) When reset ($\overline{\text{RST}}$ terminal = L), the X’tal clock signal is output. (It is not output when reset by the reset command). |
| 6 | OSC IN | I | External coil and capacitor for the character output dot clock generator are connected to this terminal. |
| 7 | OSC OUT | O | |
| 8 | CHARA | O | The character signal is output from this terminal. (MOD 0: when H, the external sync signal identification signal is output from this terminal. This output signal tells whether the external sync signal is present or not. When external sync signal is present, H is output.) When reset ($\overline{\text{RST}}$ terminal = L), the dot clock signal (LC oscillator) is output. (It is not output when reset by the reset command). |
| 9 | $\overline{\text{CS}}$ | I | Enable signal for the serial data input is input to this terminal. The serial data input is enabled at L. Pull-up resistor is built-in. (Hysteresis input). |
| 10 | SCLK | I | Clock of the serial data input is input to this terminal. Pull-up resistor is built-in. (Hysteresis input). |
| 11 | SIN | I | Serial data input terminal. Pull-up resistor is built-in. (Hysteresis input). |
| 12 | VDD2 | — | Power supply for the composite video signal level adjustment. (Analog power supply). |
| 13 | CV OUT | O | Composite video signal output terminal. |
| 14 | NC | — | Connected to GND or not connected. |
| 15 | CV IN | I | Composite video signal input terminal. |
| 16 | VDD1 | — | Power supply (+5V digital power supply). |
| 17 | SYN IN | I | Video signal for the internal sync separator circuit is input to this terminal. (When the internal sync separator circuit is not used, the horizontal sync signal or composite sync signal is input to this terminal). |
| 18 | SEP C | — | Internal sync separator circuit bias voltage monitoring terminal. |
| 19 | SEP OUT | O | The composite sync output signal of the internal sync separator circuit is output from this terminal. (H: MOD 1. H: during internal sync mode. L: during external sync mode.) (When internal sync separator circuit is not used, the SYN IN input signal is output from this terminal). |
| 20 | SEP IN | I | The output signal of the SEP OUT terminal is integrated so that the vertical sync signal is input to this terminal. An integrator circuit must be connected between the SEP OUT terminal and this terminal. When this terminal is not used, it must be connected to VDD1. |
| 21 | CTRL2 | I | When selecting any of the NTSC or PAL or PAL-M or PAL-N system, the pin setting has priority. When L, the NTSC system is selected after resetting. Selection of either NTSC or PAL or PAL-M or PAL-N system by the command becomes effective. H: PAL-M system. |

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 22 | CTRL3 | I | Controls whether or not to input the $\overline{\text{VSYNC}}$ signal to the SEPIN input. L: to input the $\overline{\text{VSYNC}}$ signal. H: not to input the $\overline{\text{VSYNC}}$ signal. |
| 23 | $\overline{\text{RST}}$ | I | System reset input terminal. Pull-up resistor is built-in. (Hysteresis input). |
| 24 | VDD1 | — | Power supply. (+5V digital power supply). |

## IC, µPD78016FGC

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1 | RBPLS | O | RADIAL BALANCE PLUS. |
| 2 | AMUTE | O | AUDIO ANALOG MUTE (H=MUTE ON). |
| 3 | GFS | I | GFS. |
| 4 | XVCDMD | I | AUDIO/VIDEO CD MODE (L=VCD=SPINDLE GAIN UP). |
| 5 | MD2 | O | DOUT MUTE CONT. |
| 6 | EMPH | I | EMPHASIS. |
| 7 | SQSO | I | SQDATA FROM CD. |
| 8 | SQCK | O | SQCLK TO CD. |
| 9 | VSS | — | GND. |
| 10 | SWNT | I | SW TV OUT MODE (L=NTSC). |
| 11 | SWAUTO | I | SW TV OUT MODE (L=NTSC/PAL AUTO). |
| 12 | SWPAL | I | SW TV OUT MODE (L=PAL). |
| 13 | EMERG | I | POWER EMERGENCY STOP (L*3sec=STOP). |
| 14 | NC | — | Nou used. |
| 15 | LPCSEL | I | “LPC ON/OFF (H=ON, NORMAL)”. |
| 16 | NC | — | Nou used. |
| 17 | LOCK | O | GFS (FRAME SYNC) LOCK (NO USE=H). |
| 18 | DMUTE | O | DIGITAL DATA OUT MUTE. |
| 19 | SENS | I | DSP SENS1 FROM CD. |
| 20 | XCDRST | O | CD RESET. |
| 21 | DATA | O | DATA TO CD. |
| 22 | XLAT | O | XLT TO CD. |
| 23 | CLOK | O | CLK TO CD. |
| 24 | VSS | — | GND. |
| 25 | FOK | I | FOCUS OK. |
| 26 | SENS2 | I | SSP SENS2 FROM CD. |
| 27 | XBUSY | I/O | READY/BUSY I/O TO HOST OD. |
| 28 | NC | — | Nou used. |
| 29 | NC | — | |
| 30 | NC | — | |
| 31 | TST0 | I/O | CHECK LAND. |
| 32 | TST1 | I/O | |
| 33 | TST2 | I/O | |
| 34 | TST3 | I/O | |
| 35 | RESET | I | RESET. |
| 36 | HRDY | I | HRDY FROM CL680. |
| 37 | XHINT | I | HINT FROM CL680. |
| 38 | NC | — | Nou used. |
| 39 | SCOR | I | SCOR FROM CD. |
| 40 | VDD | — | 5.0VDD. |
| 41 | XO | O | 8.0MHz CERALOCK. |

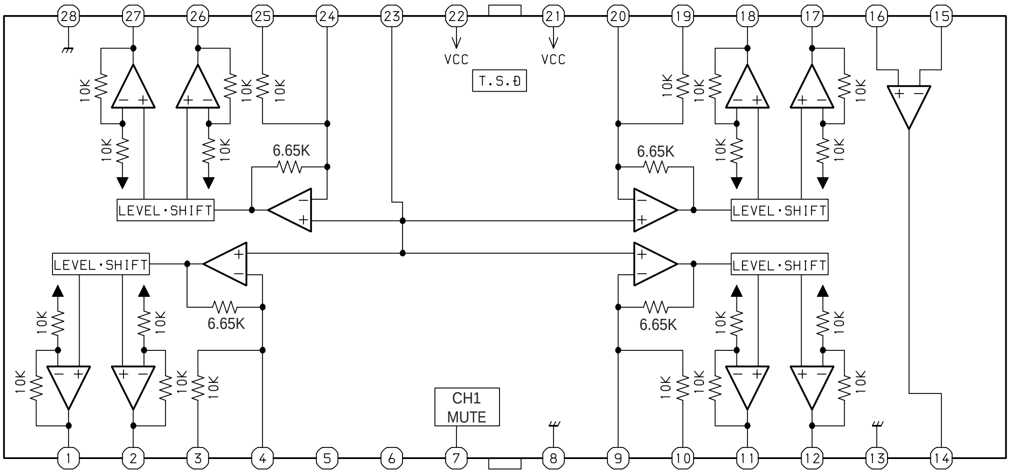
| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 42 | XI | I | 8.0MHz CERALOCK. |
| 43 | VSS | — | GND. |
| 44 | XT2 | — | Nou used. |
| 45 | XT1 | I | 5.0VDD. |
| 46 | AVSS | — | GND. |
| 47 | XMPGRST | O | MPEG BLOCK IC RESET. |
| 48 | HSEL | O | ADDRESS/DATA SEL TO CL680. |
| 49 | INLSW | I | INSIDE LIMIT SW. |
| 50 | NC | — | Nou used. |
| 51 | OSDXCS | O | OSD CHIP SELECT. |
| 52 | ABSEL | I | CXA1992A/B SELECT (L=CXA1992A). |
| 53 | CLVSEL | I | CLV MODE SELECT (H=CLV-N). |
| 54 | AADSEL | I | AUTO ADJUST SELECT (H=AUTO ON). |
| 55 | AVDD | — | 5.0VDD. |
| 56 | AVREF | — | |
| 57 | HDOUT | I | HD-OUT FROM CL680. |
| 58 | HDIN | O | HD-IN TO CL680. |
| 59 | HCK | O | HCK TO CL680. |
| 60 | OSDDATA | O | OSD DATA. |
| 61 | OSDCLK | O | OSD CLOCK. |
| 62 | COMMAND | I | COMMAND FROM HOST. |
| 63 | STATUS | O | STATUS TO HOST. |
| 64 | SCK | I | SCK FROM HOST. |

# IC, SM5878M

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1 | MUTE | I | MODE = H: Soft mute ON/OFF terminal.  (Mute at H).<br>MODE = L: Attenuator level DOWN/UP terminal. (DOWN at H). |
| 2 | DEEM | I | De-emphasis ON/OFF terminal. (De-emphasis ON at H). |
| 3 | CKO | O | Oscillator clock output.  (16.9344 MHz). |
| 4 | DVSS | — | Digital VSS terminal. |
| 5 | BCKI | I | Bit clock input terminal. |
| 6 | DI | I | Serial data input terminal. |
| 7 | DVDD | — | Digital VDD terminal. |
| 8 | LRCI | I | Sample rate clock (fs) input terminal. (H = L ch/L = R ch). |
| 9 | TSTN | I | Test input. (“H” or open during normal operation) |
| 10 | TO1 | O | Test output 1.  (Normally low level output). |
| 11 | AVDDL | — | Analog VDD terminal.  (For L ch). |
| 12 | LO | O | Left channel analog output terminal. |
| 13 | AVSS | — | Analog VSS terminal. |
| 14 | RO | O | Right channel analog output terminal. |
| 15 | AVDDR | — | Analog VDD terminal.  (For R ch). |
| 16 | MUTEO | O | Infinity zero detection output. |
| 17 | XVDD | — | X’tal system VDD terminal. |
| 18 | XTI | I | X’tal oscillator terminal.  (Or external clock input terminal of 16.9344 MHz). |
| 19 | XTO | O | X’tal oscillator terminal. |
| 20 | XVSS | — | X’tal system VSS terminal. |
| 21 | DS | I | Double-speed/normal playback selection.  (Double-speed at H). |
| 22 | RSTN | I | Reset terminal.  (Reset at L). |
| 23 | MODE | I | Soft mute/Attenuator mode selection.  (Soft mute at H). |
| 24 | ATCK | I | Attenuator level setup clock  (Ignored when MODE = H). |

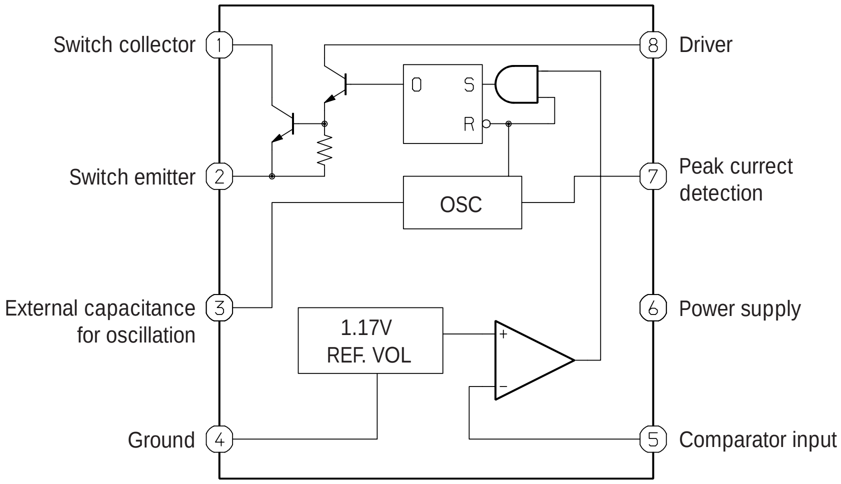
# IC BLOCK DIAGRAM

## IC, BA5915FP

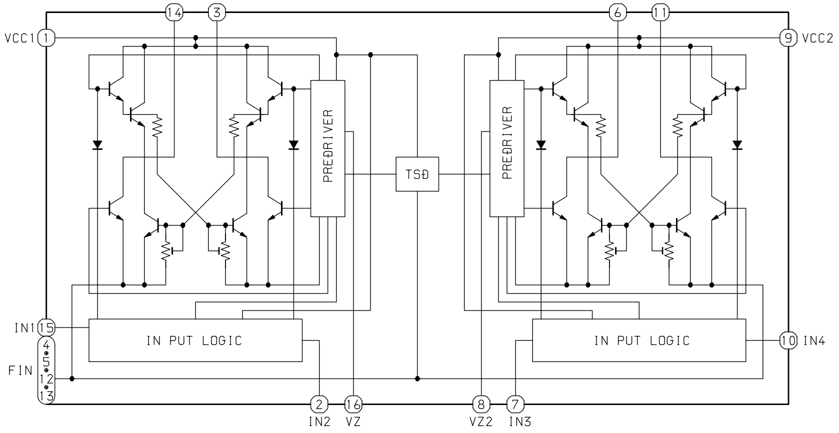

28
27
26
25
24
23
22
21
20
19
18
17
16
15
VCC
VCC
T.S.D
10K
6.65K
LEVEL·SHIFT
CH1
MUTE
1
2
3
4
5
6
7
8
9
10
11
12
13
14

T.S.D: Thermal shut-down
Resistors are in units of Ω.

## IC, M5291FP


Switch collector
1
Switch emitter
2
External capacitance
for oscillation
3
Ground
4
8
Driver
7
Peak currect
detection
6
Power supply
5
Comparator input
Q
S
R
OSC
1.17V
REF. VOL
+
−

## IC, LB1644


OUT1
OUT2
14
3
OUT3
OUT4
6
11
VCC1
1
9
VCC2
PREDRIVER
TSD
PREDRIVER
IN1
15
IN PUT LOGIC
IN PUT LOGIC
10
IN4
FIN
4
5
12
13
2
16
IN2
VZ
8
7
VZ2
IN3

TRUH TABLE

| IN1 | IN2 | OUT1 | OUT2 | IN3 | IN4 | OUT3 | OUT4 |
|---|---|---|---|---|---|---|---|
| 0 | 0 | L | L | 0 | 0 | L | L |
| 1 | 0 | H | L | 1 | 0 | H | L |
| 0 | 1 | L | H | 0 | 1 | L | H |
| 1 | 1 | L | L | 1 | 1 | L | L |

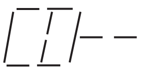
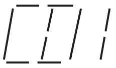
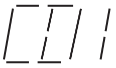
| INPUT | | | OUTPUT | | | | MODE | |
|---|---|---|---|---|---|---|---|---|
| IN1 | IN2.3 | IN4 | OUT1 | OUT2 | OUT3 | OUT4 | M1 | M2 |
| 0 | 0 | 0 | L | L | L | L | BRAKE | BRAKE |
| 1 | 0 | 0 | H | L | L | L | FF/REW | BRAKE |
| 0 | 1 | 1 | L | H | L | L | REW/FF | BRAKE |
| 1 | 1 | 0 | L | L | H | L | BRAKE | FF/REW |
| 0 | 0 | 1 | L | L | L | H | BRAKE | REW/FF |
| 1 | 1 | 1 | L | L | L | L | BRAKE | BRAKE |

# TEST MODE

1. How to Activate CD Test Mode
   Insert the AC plug while pressing the function CD button.
   All FL display tubes will light up, and the test mode will be activated.

2. How to Cancel CD Test Mode
   Either one of the following operations will cancel the CD test mode.
   - Press the function button. (except CD function button)
   - Press the power switch button.
   - Disconnect the AC plug

3. CD Test Mode Functions
   When test mode is activated, the following mode functions from No.1 to No.5 can be used by pressing the operation keys.

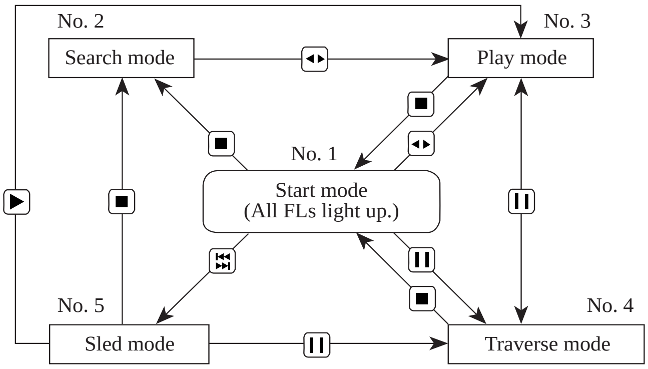
| Mode/No. | Operation | FL display | Operation | Contents |
|---|---|---|---|---|
| Start mode<br>No.1 | Activation | TEST□□ □□ □□<br>Flashes repeatdly | • Test mode is activated.<br>• CD block power is ON. | • Test mode |
| Search mode<br>No.2 | ■ key |  | • Continual focus search<br>(The pickup lens repeats the full-swing up-down motion.)<br>* Avoid continual searches that last for more than 10 minutes. * NOTE 1 | FOCUS SERVO<br>• Check focus search waveform<br>• Check focus error waveform<br>(FOK/FZC are not monitored in the search mode) |
| Play mode<br>No.3 | ◀▶key |  | • Normal playback<br>• Focus search is continued if TOC cannot be read. * NOTE 1 | FOCUS SERVO/TRACKING SERVO<br>CLV SERVO/SLED SERVO<br>Check FOK/FZC |
| Traverse mode<br>No.4 | ❚❚ key |  | • During normal disc playback<br>Press once; tracking servo OFF<br>Press twice; tracking servo ON<br>* NOTE 2 | TRACKING SERVO ON/OFF<br>Tracking balance (traverse) check |
| Sled mode<br>No.5 | ⏮key<br>⏭ | All lamps light | • Pickup moves to the outermost track<br>• Pickup moves to the innermost track<br>* NOTE 3<br>(During playback, machine operates normally.) | SLED SERVO<br>Check SLED mechanism operation |

* NOTE 1: There are cases when the tracking servo cannot be locked owing to the protection circuit being operated when heat builds up in the driver IC if the focus search is operated continually for more than 10 minutes. In these cases the power supply should be switched off for 10 minutes until heat has been reduced and then re-started.

* NOTE 2: Do not press the ⏮or⏭keys when the machine is in the ❚❚ status is active. If they are pressed, playback will not be possible after the ❚❚ status has been canceled. If the ⏮or ⏭keys are pressed in the ❚❚status, press the ■key and return to the start mode (No.1).

* NOTE 3: When pressing the ⏮or⏭keys, take care to avoid damage to the gears. Because the sled motor is activated when the ⏮or ⏭ keys are pressed, even when the pick-up is at the outermost or innermost track.

4. Operation Outline
   The operation of each mode is carried out in the direction of the arrows from the start mode as indicated in the following illustration.



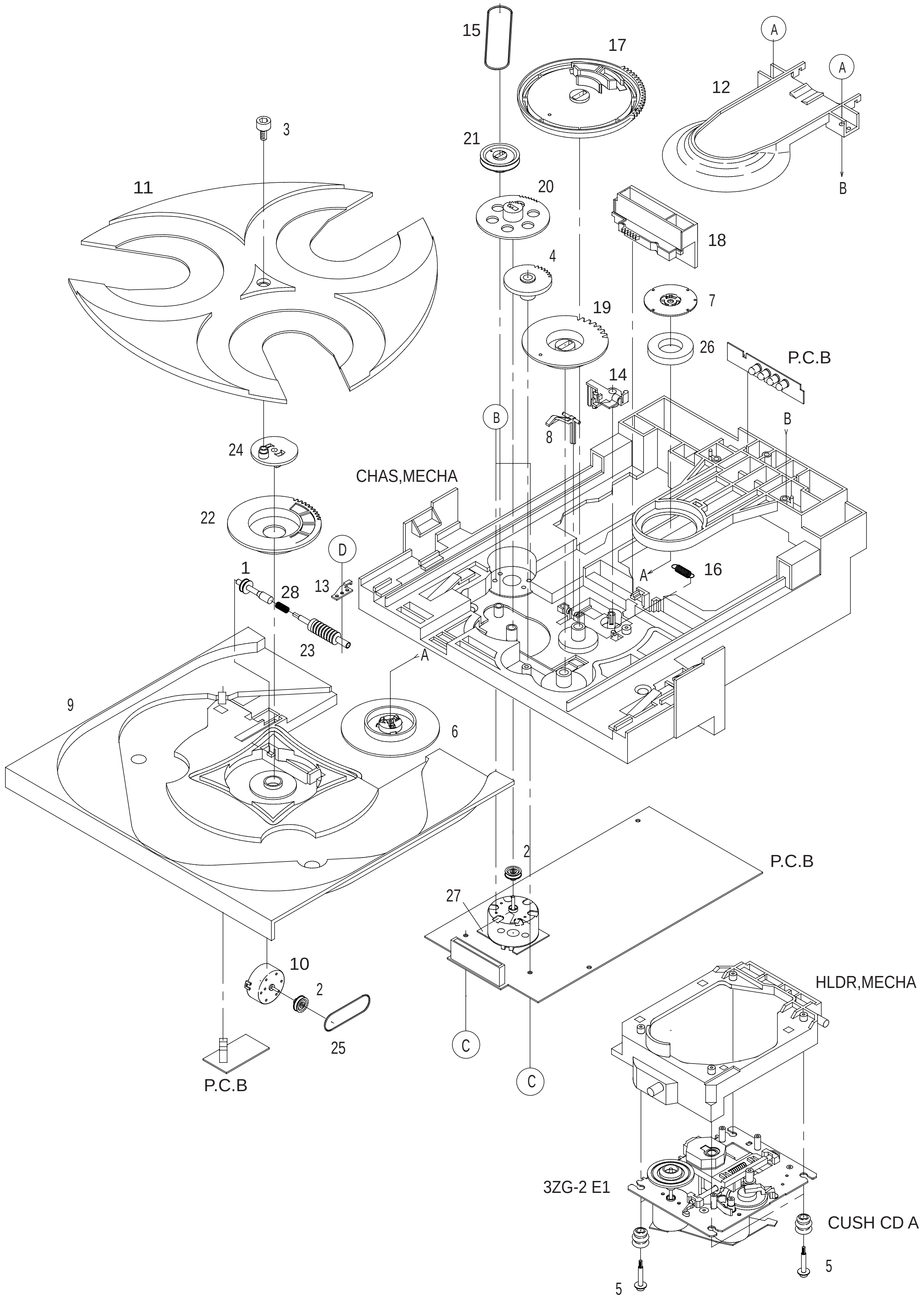
If the DISC DIRECT PLAY button is pressed, the machine performs the same operation as the PLAY button is pressed as shown. If the tray is opened by pressing OPEN/CLOSE button during Play mode or Traverse mode, the machine returns to the Start mode.

5. How to check the Automatic Adjustment Values
   The automatic adjustment values can be checked by pressing the square (■) button.
   FL display (displayed in hexadecimal values)

** ** **
Tracking balance (00-0F)
Tracking gain (00-0C)
Focus bias (10-2F)

Note) The reference value is “20 08 08”.

# MECHANICAL EXPLODED VIEW 1/1



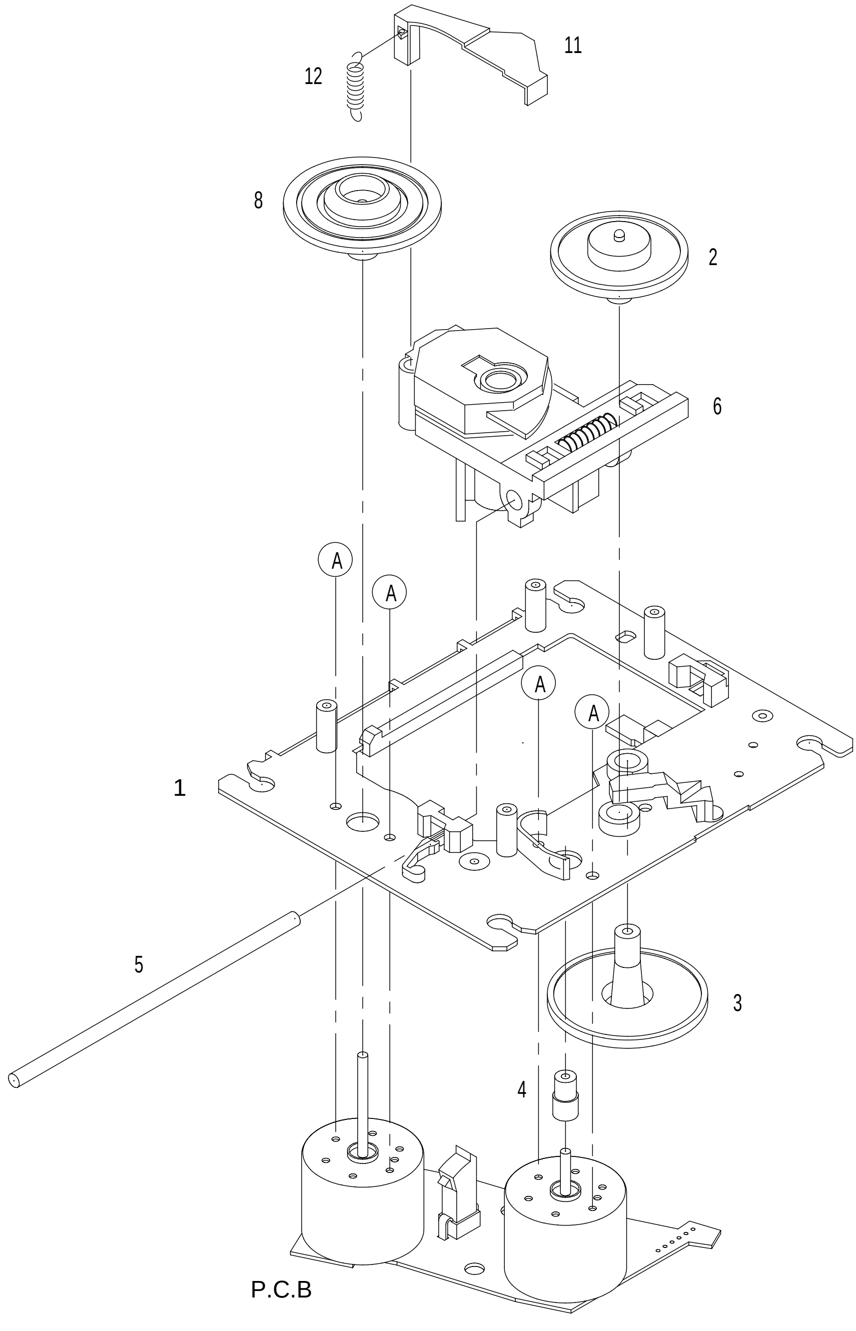
15
17
A
A
12
3
21
B
11
20
18
4
7
19
26
P.C.B
14
B
B
8
24
CHAS,MECHA
22
D
A
16
1
28
13
23
A
9
6
2
P.C.B
27
10
HLDR,MECHA
2
25
C
P.C.B
C
3ZG-2 E1
CUSH CD A
5
5

# MECHANICAL PARTS LIST 1/1

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

| REF. NO | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| 1 | 84-ZG1-239-210 | | PULLY,WORM N |
| 2 | 84-ZG1-267-010 | | PULLEY,LOAD MO 8 |
| 3 | 81-ZG1-239-010 | | S-SCREW,TT |
| 4 | 81-ZG1-291-110 | | GEAR,TRAY RELAY NO3 |
| 5 | 81-ZG1-271-010 | | S-SCREW MECH REAR |
| 6 | 81-ZG1-277-310 | | HLDR,MAGNET N |
| 7 | 81-ZG1-255-110 | | PLATE,MAGNET MK2 |
| 8 | 83-ZG3-213-010 | | LVR,SW |
| 9 | 84-ZG1-003-310 | | TRAY,NO2-B |
| 10 | 87-045-364-010 | | MOTOR(BCH3B14) |
| 11 | 84-ZG1-005-210 | | TURNTABLE,NO1(*) |
| 12 | 84-ZG1-011-010 | | REFLECTOR,CD |
| 13 | 84-ZG1-259-010 | | SPR-P,WORM |
| 14 | 84-ZG1-208-210 | | LEVER,CAM |
| 15 | 84-ZG1-209-010 | | BELT,SQ1.8-117.7 |
| 16 | 84-ZG1-211-010 | | SPR-E CAM S |
| 17 | 84-ZG1-215-410 | | GEAR,MAIN CAM BLU |
| 18 | 84-ZG1-216-310 | | SLIDE,MECHA CAM YEL |
| 19 | 84-ZG1-205-110 | | GEAR,TRAY |
| 20 | 84-ZG1-206-110 | | GEAR,RELAY |
| 21 | 84-ZG1-207-010 | | PULLEY,RELAY |
| 22 | 84-ZG1-221-010 | | GEAR,MAIN TT |
| 23 | 84-ZG1-238-010 | | GEAR,WORM N |
| 24 | 84-ZG1-224-010 | | LEVER,TT |
| 25 | 84-ZG1-225-010 | | BELT,SQ1.0-63.3 |
| 26 | 83-ZG3-602-010 | | RING,MAG |
| 27 | 87-045-305-010 | | MOTOR, RF-500TB DC-5V (2MA) |
| 28 | 84-ZG1-248-010 | | SPR-C,WORM |
| A | 87-067-703-010 | | TAPPING SCREW, BVT2+3-10 |
| B | 87-251-070-410 | | U+2.6-3 |
| C | 87-342-036-210 | | UT2+2-8 |
| D | 87-067-981-010 | | BVT2+3-6 BLK |

# CD MECHANISM EXPLODED VIEW 1/1 (3ZG-2 E1)



# CD MECHANISM PARTS LIST 1/1 (3ZG-2 E1)

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

| REF. NO | PART NO. | KANRI NO. | DESCRIPTION |
|---|---|---|---|
| 1 | 83-ZG2-243-110 | | CHAS ASSY,SHT |
| 2 | 83-ZG2-235-010 | | GEAR,A3 |
| 3 | 83-ZG2-205-210 | | GEAR,B |
| 4 | 83-ZG2-236-010 | | GEAR MOTOR 3 |
| 5 | 83-ZG2-240-010 | | SHAFT,SLIDE 3 |
| 6 | 87-A90-836-010 | | PICKUP,KSS-213F |
| 8 | 83-ZG2-233-010 | | TURN TABLE,A5 |
| 11 | 83-ZG2-245-110 | | LEVER,SHUTTER |
| 12 | 83-ZG2-250-010 | | SPR-E,SHT 2 |
| A | 87-261-032-210 | | SCREW V+2-3 |

USE MODEL LIST

- CX-NAK572
- CX-NK270
- CX-NK290
- CX-NK370
- CX-NK570
- CX-NK765
- CX-NK770
- CX-NK970
- DX-SNKH100

# REFERENCE NAME LIST

## ELECTRICAL SECTION

| DESCRIPTION | REFERENCE NAME |
|---|---|
| ANT | ANTENNAS |
| C- | CHIP |
| C-CAP | CAP, CHIP |
| C-CAP TN | CAP, CHIP TANTALUM |
| C-COIL | COIL, CHIP |
| C-DI | DIODE, CHIP |
| C-DIODE | DIODE, CHIP |
| C-FET | FET, CHIP |
| C-FOTR | FILTER, CHIP |
| C-JACK | JACK, CHIP |
| C-LED | LED, CHIP |
| C-RES | RES, CHIP |
| C-SFR | SFR, CHIP |
| C-SLIDE SW | SLIDE SWITCH, CHIP |
| C-SW | SWITCH, CHIP |
| C-TR | TRANSISTOR, CHIP |
| C-VR | VOLUME, CHIP |
| C-ZENER | ZENER, CHIP |
| CAP, CER | CAP, CERA-SOL |
| CAP, E | CAP, ELECT |
| CAP, M/F | CAP, FILM |
| CAP, TC | CAP, CERA-SOL |
| CAP, TC-U | CAP, CERA-SOL SS |
| CAP, TN | CAP, TANTALUM |
| CERA FIL | FILTER, CERAMIC |
| CF | FILTER, CERAMIC |
| DL | DELAY LINE |
| E/CAP | CAP, ELECT |
| FILT | FILTER |
| FLTR | FILTER |
| FUSE RES | RES, FUSE |
| MOT | MOTOR |
| P-DIODE | PHOTO DIODE |
| P-SNSR | PHOTO SENSER |
| P-TR | PHOTO TRANSISTOR |
| POLY VARI | VARIABLE CAPACITOR |
| PPCAP | CAP, PP |
| PT | POWER TRANSFORMER |
| PTR, RES | PTR, MELF |
| RC | REMOTE CONTROLLER |
| RES NF | RES, NON-FLAMMABLE |
| RESO | RESONATOR |
| SHLD | SHIELD |
| SOL | SOLENOID |
| SPKR | SPEAKER |
| SW, LVR | SWITCH, LEVER |
| SW, RTRY | SWITCH, ROTARY |
| SW, SL | SWITCH, SLIDE |
| TC CAP | CAP, CERA-SOL |
| THMS | THERMISTOR |
| TR | TRANSISTOR |
| TRIMMER | CAP, TRIMMER |
| TUN-CAP | VARIABLE CAPACITOR |
| VIB, CER | RESONATOR, CERAMIC |
| VIB, XTAL | RESONATOR, CRYSTAL |
| VR | VOLUME |
| ZENER | DIODE, ZENER |

## MECHANICAL SECTION

| DESCRIPTION | REFERENCE NAME |
|---|---|
| ADHESHIVE | SHEET ADHESHIVE |
| AZ | AZIMUTH |
| BAR-ANT | BAR-ANTENNA |
| BAT | BATTERY |
| BATT | BATTERY |
| BRG | BEARING |
| BTN | BUTTON |
| CAB | CABINET |
| CASS | CASSETTE |
| CHAS | CHASSIS |
| CLR | COLLAR |
| CONT | CONTROL |
| CRSR | CURSOR |
| CU | CUSHION |
| CUSH | CUSHION |
| DIR | DIRECTION |
| DUBB | DUBBING |
| FL | FRONT LOADING |
| FLY-WHL | FLYWHEEL |
| FR | FRONT |
| FUN | FUNCTION |
| G-CU | G-CUSHION |
| HDL | HANDOL |
| HIMERON | CLOTH |
| HINGE, BAT | HINGE, BATTERY |
| HLDR | HOLDER |
| HT-SINK | HEAT SINK |
| IB | INSTRUCTION BOOKLET |
| IDLE | IDLER |
| IND, L-R | INDICATOR, L-R |
| KEY, CONT | KEY, CONTROL |
| KEY, PRGM | KEY, PROGRAM |
| KNOB, SL | KNOB, SLIDE |
| LBL | LABEL |
| LID, BATT | LID, BATTERY |
| LID, CASS | LID, CASSETTE |
| LVR | LEVER |
| P-SP | P-SPRING |
| PANEL, CONT | PANEL, CONTROL |
| PANEL, FR | PANEL, FRONT |
| PRGM | PROGRAM |
| PULLY, LOAD MO | PULLY, LOAD MOTOR |
| RBN | RIBBON |
| S- | SPECIAL |
| SEG | SEGMENT |
| SH | SHEET |
| SHLD-SH | SHIELD-SHEET |
| SL | SLIDE |
| SP | SPRING |
| SP-SCREW | SPECIAL-SCREW |
| SPACER, BAT | SPACER, BATTERY |
| SPR | SPRING |
| SPR-P | P-SPRING |
| SPR-PC-PUSH | P-SPRING, C-PUSH |
| T-SP | T-SPRING |
| TERM | TERMINAL |
| TRIG | TRIGGER |
| TUN | TUNING |
| VOL | VOLUME |
| W | WASHER |
| WHL | WHEEL |
| WORM-WHL | WORM-WHEEL |

| サービス技術ニュース | |
|---|---|
| 番号 | 連絡内容 |
| G—　— | |
| G—　— | |
| G—　— | |

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